

Light Effects in the Design Process

A theoretical investigation of designers' perceptions of light effects and an empirical study of how they use them in architectural lighting design.

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by
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*I, Alkistis Zoi Skarlatou,
confirm that the work presented in this thesis is my own.
Where information has been derived from other sources,
I confirm that this has been indicated in the thesis*

A handwritten signature in black ink, appearing to read 'Alkistis Zoi Skarlatou', written in a cursive style.

Abstract

There is a widely accepted but undocumented number of colloquial terms used within the architectural lighting profession, briefly described as 'light effects'. They are seen as vague and unsuccessful in describing the phenomena in question. Therefore a thorough retrospection of classifications or explorations by lighting designers, researchers and artists such as Richard Kelly, John Flynn and Laszlo Moholy-Nagy is carried out in search of understanding the underlying criteria. The hypothesis of the thesis is that designers perceive light effects and conceive lighting schemes as compositions of light effects during the design process, according to five generic principles of 'space and light'. They are briefly described as: direction and position of light source, geometry of light distribution, illumination perspective, use of abstraction in luminous compositions and syntactic relationship of surface and source.

In the second part, an empirical evaluation of the hypothesis is unfolded. Lighting designers are recorded while planning the lighting for a purpose-designed residence. With methods influenced by protocol analyses of design studies, the corpus of coded transcripts supported by produced sketches and videos is analysed in an interpretative approach. It appears that designers clearly consider the first three principles as directly affecting the formal properties of a lighting scheme while also thinking on a more organisational level of luminous compositions, which involves some use of abstract and a lesser use of syntactic thinking. The use of 'metaphors' and 'archetypes' is identified as an extra mental tool that interlinks the itemised light effects to an overall conception of space by providing 'content'. Overall, the thesis attempts for the first time to accurately address the elusive nature of 'light effects' based on designers' opinions and establishes five criteria that work as an articulation of architectural lighting design principles.

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To Eleni

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Chapter 1

On the notion of light effects

1.1 Introduction

The incentive behind this thesis dates back to the author's first years of experience as a practising lighting designer. During that period she came across both the professional use of the English language and the vernacular/terminology of lighting design. The first stimulus impelled her towards the understanding of delicate nuances between synonyms and between cultures, while the second triggered a more fundamental quest. There were many colloquial terms such as fringe lighting or silhouette lighting that were used within the architectural lighting profession and were briefly described as 'light effects'. Effects are the fundamental tools of the designer. He/she imagines them, brings them into the space given by the architect, tunes them to the right brightness and combines them in lighting compositions. Lighting designers used those terms juxtaposed with images of light effects from various applications, which were kept in the image databases of different lighting design practices. Because of the large number of those effects the images were classified in folders. However, the folders bore names of spatial elements such as interior/exterior, ceiling/floor/walls, façade/atrium/corridor etc. In more confusing situations folders of architectural elements and light elements coexisted in the database. So a database could have folders for interior/exterior lighting examples and backlighting/frontlighting lighting examples. It was therefore reasonable to wonder: what is the logic behind the categorising all these light effects? What is the role of space in this categorisation?

During the same period there was also another observation. Recognising that the masterly use of light effects in space was the basic creative tool of lighting designers, it seemed relatively degrading for the profession that no special theory existed on the use of light effects. This was left to the intuition and expertise of designers; more of an artist's skill. Up till now the lighting profession relies on calculation programs, to ensure that the light introduced is adequate and uniform, and on the intuition and experience of the designer to ensure that it will appear aesthetically pleasing. When lighting design is compared with architecture (theory and practice), it becomes evident that architecture is a profession with a respectable history and a theory that is thorough and valid. Naturally it is a lot more advanced than lighting design, which has been practised only for the last 60–70 years¹ with a theory that is fragmented and disparate, albeit small. This contributes to distrust on the part of architects of the lighting designer's role in a project, especially when speaking about the conceptual part of a scheme. With little or no theory behind them and with insufficient

¹ Beginning from the time when creative design started to become a requisite and desirable and not from the time of electrical engineering dominance in the field.

justification for the proposed light schemes, designers still cannot defend their ideas adequately. For those reasons it is believed that any attempt to systematically examine light effects as notions and their use within the lighting design profession would be an important step towards conferring more integrity and prestige on lighting design. It will also render lighting designers more confident and conscious in the use of their most important tools.

1.2 The broad field of the study

The broad field of this study is lighting design. The ultimate goal of research in the wider design field is always the improvement of it for the consequent enhancement of human life. In the case of lighting design, a narrower specialist area, there has long been established a need for

Design that clarifies and informs architecture and cityscapes and not just adequate and comfortable light as achieved by illuminating engineers. (Kepes quoted in Michel 1995)

However, lighting design is not an easy subject for several reasons, which are explained below. The difficulties of the subject have led the author to employ specific research methods that would address those problems effectively. Of course each methodology employed in all research is fundamentally affiliated to an underlying philosophical base and this is why the study begins by explaining a departure from the quantitative methods that are traditionally found in light and lighting research, an inclination towards qualitative methods and a belief in the multiple realities offered by different people, which in turn are influenced by parameters outside them.

Firstly, light is a *subjective* thing and the subjectivity of it is the dominant philosophical problem in this study that recurs annoyingly throughout the course of its unfolding. Secondly, apart from being subjective, light is also *non-material*, but with the contradiction of having a very strong presence or absence for everyone: while few people will notice and comment on average levels of light or distinguish between poor and good quality of light, most people will notice the presence of a very strong light or intense darkness or light conditions close to the two extremes and will experience very intense emotions about these phenomena. Light can be accurately measured, but no amount of measurements can transmit the essence of a light phenomenon and therefore capture its presence, as this is captured in the human perception and apprehension. In the light research field this contradiction causes methodological conflicts, almost ontological in their nature, which are mostly recorded as a shift from quantitative to qualitative methods, numerical to perceptual, or the engineers' word against the word of designers and artists. Finally, lighting presents another problem: *light is empirical*. A phenomenon related to light cannot be fully reproduced, described or explained, no matter how accurately recorded and transmitted, and this gives people who have visually experienced a light phenomenon an obvious

advantage over those who have not. This is most probably why practices employ more than one tool (images, sketches, text and models) to communicate to clients the light effects they envisage. This very simple fact, which has a rich philosophical base and which is also common in other fields of knowledge dealing with the senses, will be left as a simple statement here and will be revisited at a later stage. It is mentioned here in order to explain the choice of methodological tools in the study.

Taking things in the same sequence, the question of *subjectivity* has long ago been posed by prestigious researchers and practitioners with engineering backgrounds. Their background is stated here because their stance on this subject is directly opposed to their positivist background and the scientific viewpoint they are accustomed to, which axiomatically predetermines that whatever is actual is also quantifiable. The years of Modernism influenced a reliance on quantitative methods which was assumed to provide building enhancement and life comfort (Riley 1998). Their full understanding of the nature of light and its phenomena though, which came from experience, led them to question this fact and this was further established by the observation of some paradoxes. In *Lighting and the search for meaning*, Jay introduces two paradoxes which are based on the various perceptual constancies. In other words, the long-established inconsistency of us understanding our environment as unchangeable, even though various changes are constantly occurring, for example, while we or an object are moving, or when light changes. He also refers to the inability of non-professional people to observe and comment on different light scenes in a space. He justifies those paradoxes with the argument that there is an inherent need to perceive stability in our external world for survival (Jay 1978). Arnheim also makes a poignant comment on the changing qualities of light and our apparent inability to observe those phenomena.

If an event or thing is experienced frequently and we have learned to react to it smoothly, our reasoning and feeling are not likely to remain actively concerned with it. And yet it is the most common and elementary matters that reveal the nature of existence with powerful directness. (Arnheim 1969)

Light is one of the revealing items of life. [...] But as its powers over the practice of daily living become sufficiently familiar, it is threatened with falling into oblivion. It remains for the artist and the occasional practical moods of the common man to preserve the access to the wisdom that can be gained from the contemplation of light. (Arnheim 1969)

Waldram also observes the existence of some contradictions between theory and practice (Waldram 1954) and that the eye is not just a 'bad photometer' as once considered, but a more complicated organ of sight and therefore design cannot be approached based on this model (Waldram 1954; Jay 1978).

We have approached lighting from photometry, and still think of the eye as a photometer, not recognising that it is not a photometer at all and responds to light quite differently from a photometer. (Waldram 1954)

As is obvious from the above, the problem of subjectivity of light phenomena is well known and accounted for in past publications. For this reason, the research question is not based on one person's reality – the author's – but it takes into consideration the opinion of a group of experts (lighting designers interviewed) and the level of their agreement or disagreement with the hypothesis formed by the author. Each designer's input is examined in its own context, following their line of thinking. Therefore the element of subjectivity is thus incorporated in the study.

On the issue now of the *non-material* nature of light and the methodological problems this causes, light in this study is not thought of as 'emission' from the sources, intangible, immaterial and therefore only sufficiently described in numbers, but as a phenomenon rendered visible when reaching architectural surfaces. Of course physical sciences have not ignored the difference between light emitted from a source and light reflected from a surface. The existence of both 'luminance' and 'illuminance' verifies that.² While illuminance refers to the quantity of light falling *from* a source *onto* a surface, luminance refers to the quantity of light *leaving* a surface and travelling *towards* the user's eyes after having left the light source. But the potential for altering light effects with the help of space has so far been completely ignored. Surfaces form the light and are formed by it in a dual relationship that has been thoroughly examined in arts of 'light and space'. The attention in the current thesis shifts from 'how much light' to 'what kind of light, what kind of visual result' and that

² In fact, historically speaking, first the physical sciences considered the perceptual irregularities and addressed them in a positivist way, while the arts and architecture, influenced by preceding psychology investigations and phenomenological ideas, followed. Some account for this in a sequential and causal way – as a progress of thought – while others see them in a live ongoing state of conflict. P. A. Jay refers to that as the passing of Western philosophy from John Locke's influence to that of Newton and the more recent notion of our 'relative' understanding of the Laws of Physics. (Jay 1978)

question implies the existence of a variety of light effects depending not on numerical data but on the type of surfaces.³ As mentioned in the introduction it has been observed that lighting practices classify light effects in image database folders according to conventional spatial concepts. Below, light effects are defined as space-dependent elements. The immense contribution of art, and more specifically of the 'Light and Space' group of artists, to this kind of shift of attention is also explained more analytically below. But the spatial parameter introduced is useful not only for definition purposes. Since there are no previous qualitative studies on the design process of lighting, this thesis uses resources (vocabulary, concepts and techniques) from architectural theory or from previous research on architecture-related subjects.

As already said, light is *empirical* and the best subjects to involve in contributing to the investigation of such a problem are those who have experienced as large a variety of light effects as possible. Because of the lack of knowledge and experience on the part of users, professional lighting designers act as mediums in the process of deciding on the lighting of spaces, to, we assume, the users' best benefit, and therefore using lighting designers as the target group of this research is a more logical route in order to extract the needed information. This target group is distinct from the amateurs in that it possesses professional expertise, which is theoretical and technical knowledge, as well as previous experience and constant change to previously acquired beliefs – something that naturally happens concurrently with the evolution of ideas, the propagation of knowledge and the multiplicity of possibilities offered by technological innovations. Within this narrower field of knowledge, this study is triggered by a rather loose sum of ideas concerning qualitative design decisions. To put it more simply: how lighting designers make decisions for lighting a space one way or another. The most logical answer to this is that they are influenced by an inherent set of design values which, however, cannot be named easily, either by them or by academics. Michel recognises the value of distilling design principles since those guide design and provide stability in the face of inevitable changes in technology and fashion. He adds to this the need for a 'working terminology' (Michel 1995). This is thought here to be a knowledge gap and the present study is intended to examine this and provide a possible explanation.

The knowledge gap identified has to do with the values that influence design choices of light effects; in other words, the reasoning behind the choice of light effects, as this kind of

³ Surfaces enclose space, but space itself can be non-material, like light, so in order to simplify things here 'surface' is used instead of 'space'.

reasoning stems from the designers' beliefs.⁴ Investigating those values, as reflected in the choice of lighting effects, is important for the intellectual maturity of the design branch of the profession. Even if this research is a subjective stance on a multifaceted problem, it is worth conducting it for setting a base for comments in a practically non-existent literature. It does not claim to employ behavioural psychology to understand designers' intentions and thinking; understanding designers' thinking is not the quest of this work. It takes the external and therefore observable products of their thinking (sketches, gestures and words) and analyses them as proof of common ideas, philosophies or simply beliefs. It is more concerned with identifying and documenting those beliefs rather than discovering the reasons why lighting designers think the way they do.

Designers' beliefs stem from: acquired technical knowledge, psychophysical needs of the user, cultural preferences, ideals and beliefs, fashion sometimes and personal preferences. Technical knowledge and the psychophysical needs of the user have been researched in the past and present and well documented. Personal preferences by default cannot be the subject of systematic research, nor can they offer a useful conclusion since each observation will be valid for only a small part of the professional body of practice. What remains is the product of design education, Western socio-cultural beliefs about the visual environment, perception and fashion (which is often influenced by technological innovations).⁵ The above factors will remain in the field of study as a presence but will not be further analysed. A designer makes a choice while having in mind all those parameters, which work in a restrictive or guiding way. So these will be recognised when present, but they will remain in a peripheral area of the study.

Within the field defined above, this thesis will have its exceptions and its special focus areas. Assuming that the designers' beliefs are verbalised in the choice of special terms, codified through meaningful sketches and materialised through the integration of the selected light effects in built space, in a causal relationship, it will be reasonable to focus on them, and more specifically on how light effects are understood, classified and implemented by lighting designers. The definition of 'light effects' as distinct entities is crucial and needs to be dealt with before any other attempt. This definition is found below.

⁴ In the actual words of Waldram: '*design implies purpose*'. (Waldram 1978)

⁵ A very good example of that is the abundant use of colour-changing effects following the emergence of LEDs from the lab and their application to lighting fittings, which initially led to rather simplistic applications in several design schemes.

It is also assumed here that the relationship between built space and light effects is causal: a specific configuration of space is understood by the lighting designers in such a way that they generate certain design decisions on how to light this space. For this background thinking that relates to architectural space, the profession has named itself and is often referred to as 'architectural lighting design', differentiating it from stage lighting, events lighting or film lighting, for example. The element of space here further designates the topic and directs the study to a specific literature, but it also complicates the debate about 'architectural lighting design' since stage, film and any other kind of action in art and lighting practice actually contain the space element, or depict a form of space, which can easily be considered as 'architectural'. To clarify things at this stage where the topic is announced, it is useful to say that the topic is built space, intended to be inhabited and therefore hosting activities, but ideas and arguments on 'lighting a space' will be drawn from a more extended field than functional space, running the gamut of 'what can be perceived' of a lit space rather than 'what part of a lit space can be inhabited'.

1.3 Definition of light effects

There is often in texts a reference to 'light effects' and yet no formal definition of this notion is met in any of the lighting literature. One might question how a light effect is identified and defined and, if categorised, according to what criteria this categorisation takes place. Moreover, what is the usefulness that justifies the persistence here of trying to classify the light effects into types? To define a notion is to grasp its elusive identity and to be able to explain with words something that is commonly understood and perceived. Light effects are commonly understood and admitted as notions by lighting designers. They can tell the difference between them and very often they use metaphors or technical terms - that imply the techniques of creating them - to name them. *Wallwashing* for example is a metaphor that evokes the effect of water or fluid running down a surface. *Cove lighting* is a name that originates from the technique of hiding a linear source inside a cove detail and restricting its 'flow' to the limits of the cove opening. This, however, does not answer the question of how light effects are identified and defined. Answering this will lead to answering the second question of categorisation and its role in design. This set of questions will not expand much on the typology and the 'idea of type' because this can be a research subject on its own, but will focus on the ontological question of lighting effects as notions and the criteria of differentiation. If one can see clearly enough the difference between two light effects then this will explain their de-composition into types and their re-composition into full lighting schemes.

At this point an analogy with architecture is useful to grasp the concept of light effects and to demonstrate the usefulness of identifying types of light effect and defining their specificity. Construction materials (wood, steel, bricks and mortar) are tools of architecture and one segment of architectural scholarship involves the mastering of their properties and the possible synergy between them in order to achieve structural compositions of strength and quality. Different types of opening (skylights, sash windows, glazed façades, portholes, slots) are also tools of architecture with distinctive identities, and their employment in architectural compositions signifies values additional to the obvious functional ones: the need to air a space or let daylight in. Their role, apart from the functional, can also be valued as defining the style of a building regardless of the materials they are made of (but also giving a special style to the building because of the special quality of light they let in). It is the configuration of the constituent materials of a window that proves its identity. We therefore may say a *type* of window.

In an analogy, a light effect gains its identity from the appearance of lit space it offers and not only from its technical characteristics. For example, to achieve a cove of linear lighting, different sources in different arrangements can be used (a series of close offset recessed downlights, a series of overlapping fluorescent sources, a continuous cold-cathode tube, a series of xenon lights, LEDs etc). Irrespective of the type of source, the effect holds its basic characteristics: its configuration and appearance of the continuously washed surface. The way the sources are arranged in the holding architectural envelope can result in a 'cove lighting' effect. The configuration of the surface that 'receives' the emitted light can also contribute to it. Light effects also exist in the consciousness of the lighting designer as notions of a visual result distinct from others before this is recreated – as distinct as a door from a window and a sash window from a bay. Cove lighting is actually a term that describes the modulation of surface to accommodate lighting in a way that produces a clean, linear, unavoidably gradational light 'wash' across a surface (usually, but not exclusively, that surface is a wall where the cove is formed at the join of wall and- ceiling). The word 'cove' also signifies the alcove shape, an intentional folding of the fabric to enclose and hide the linear source or array without compromising the uniformity of washing. Although this describes one way to achieve the effect, designers may describe other similar ways that produce the same effect as 'cove lighting'. In Figure 1.1 and Figure 1.2 the cove is achieved in two different ways but the light effect is the gradation of light across the surface. The less conventional the form is (Figure 1.2), the less easy it is to describe the effect in technical terms. Therefore, a light effect can hold its identity independently from its generating material constituents but it depends on the arrangement of those constituents in space and the configuration of the 'receiving surface' that renders them visible.

Combining now the examples of a window and a light cove, the light effect of a window, as a result of letting daylight in, is dependent on the shape and features of the window as it defines the amount and quality of light entering the enclosed space. Therefore, the configuration of a window does not depend only on the material parts of it, but on its shape, the type of glass, its position and height on the wall, its opening mode etc. These features, which are clearly consciously decided, which are non-material and make us differentiate, characterise *types* of window and styles of architecture (in a larger scale) and consequently take the discipline of architecture to the next level. We can therefore define light effects as follows:

Light effects are observable phenomena which are equally depended on the *source* that produces the light and its arrangement and the *space* configuration that accommodates it. Both of the parameters can be either natural or created. Lighting designers are able of

understanding and manipulating the principles of those parameters to achieve the phenomenon conceived and intended by them.

The comparison between a window's and a cove's physical and visual appearance responds to the last question posed. What is the usefulness of trying to classify light effects into types? A classification of light effects bears the logic of comparison and is emerging from the different features. The whole process makes the design process more conscious and, on an interpretative level, shifts the discussion from merely technical problems to problems of form and meaning.

In the following pages there is a schematic representation of several lighting terms that are used before being analysed. The circle represents the lighting design vocabulary and the words in it. This is not an exhaustive list, but rather is indicative of a large variation of meaning content and origin. At first glance one would assert that some bear common enough characteristics to be able to be grouped into categories. For example, one would be tempted to group 'downlight', 'uplight', 'side lighting' and 'backlighting' into one cluster labelled: 'direction' or 'position of source in relation to surface'. In the same way, one would then continue grouping 'linear', 'planar' and 'point source' into another cluster labelled 'geometry of light source', and so on. Then a quick schematic representation of that classification would look like Figure 1.3. The terms start to lose their chaotic arrangement and gain a different meaning when connected with others bearing common characteristics. The problem that arises then is that after a closer look, one starts to doubt the validity of the initial classification since some terms seem to belong to more than one group, because they have more than one attribute and can, if met in a text, be interpreted according to the genre of the text. One word with many possible 'readings', for example, is 'ambient'. Ambient light can be classified as part of the elements defined by Richard Kelly⁶, as geometry of source (implying diffuse general light), as syntax (noting neutrality in relation to surface) and as direction (implying a multi-directional lighting source) (Figure 1.4). In fact most of the lighting terms can belong to at least two groups (Figure 1.5). By linking each term to two or more groups the classification would become far too complicated to be useful. To avoid this, the study attempts initially to identify general ideals (*axioms*) which would be generic enough to include more than a few terms and be broad in their notion. If these ideals prove valid and generic enough, there is a serious possibility that this categorisation would continue to have validity and use even after the materials and

⁶ Richard Kelly: (1910 – 1977) American lighting designer and pioneer of architectural lighting design. Known mostly for some of his successful projects, such as Seagram Building, and his personal classification of light effects in 'ambient light', 'focal glow' and 'play of brilliants'.

technology have advanced and new morphological effects have become common to the applied lighting schemes.

To derive these axioms, an extensive study of recent lighting literature has been made, and in some cases where the lighting literature was not developed enough, visual studies, art theory and architectural theory has also been employed. The following literature review focuses on practitioners and scholars instead of theories, even though some ideas are present in more than one person's writings. The review begins with the presentation of three leading figures in lighting design, Stanley McCandless, Richard Kelly and John Flynn, since they are the ones who have developed interesting classifications of some lighting effects. It continues with Gyorgy Kepes and other scholars who have involved themselves in art theory and abstraction. Those scholars are not directly linked to lighting but are either specialised in visual studies or have experimented on artificial light as an art medium or as an emerging reality. The review ends with Lynes and a more structuralist approach that considers a differentiation between surface and source. McCandless, Kelly and Flynn together with Mills have attempted to classify lighting effects in an interesting way and the review mainly focuses on that part of their work but does not ignore their general views and background as expressed in papers, design articles or real projects. Kepes and Moholy-Nagy represent the values of the Bauhaus School and its experimentation on the visual environment, with Gestalt as their background theory. The study extracts the part that is related to light, of course, but touches the borders of other scholars' approaches, such as Zimmer and Arnheim. The ultimate goal of this reading is to extract the relevant axioms that would help to create a more generic classification of the lighting terms.

On the notion of light effects.



Figure 1.1: Cove lighting example in corridor walls. The cove is found in the joining of wall and ceilings. Project by Marc Newson, Hotel Puerta America, Madrid ES. Source: PLD magazine, No.47, Jan/Feb 2006, VIA Verlag.



Figure 1.2: Cove lighting example in ceiling fold. Project by Zaha Hadid, Hotel Puerta America, Madrid ES. Source: PLD magazine, No.47, Jan/Feb 2006, VIA Verlag.

On the notion of light effects.

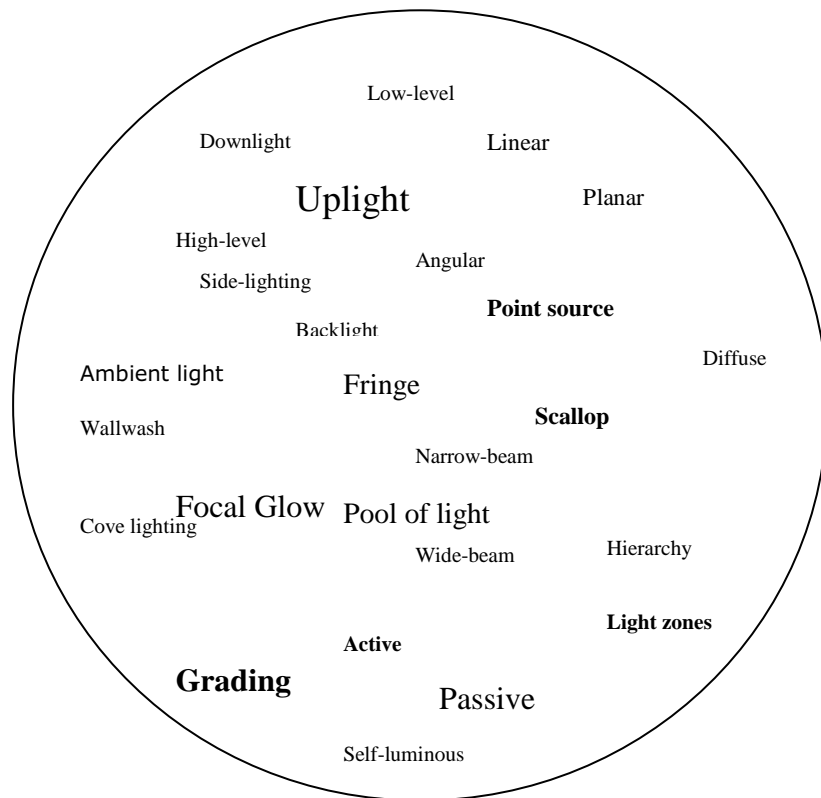


Figure 1.3: A representation of the assembly of colloquial terms of light effects.

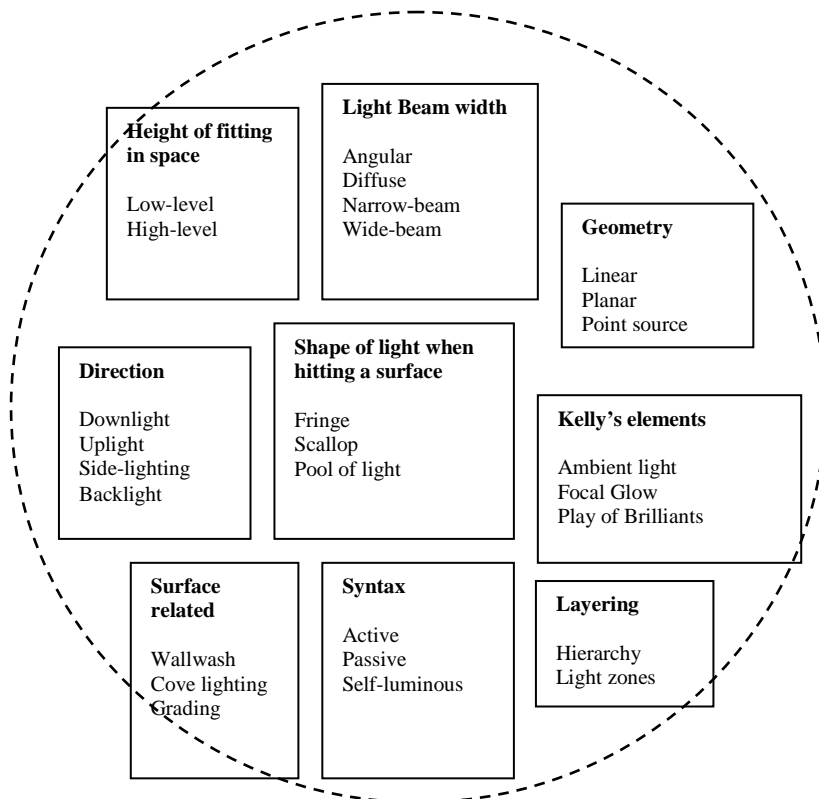


Figure 1.4: The assembly of light effects in indicative categorisations.

On the notion of light effects.

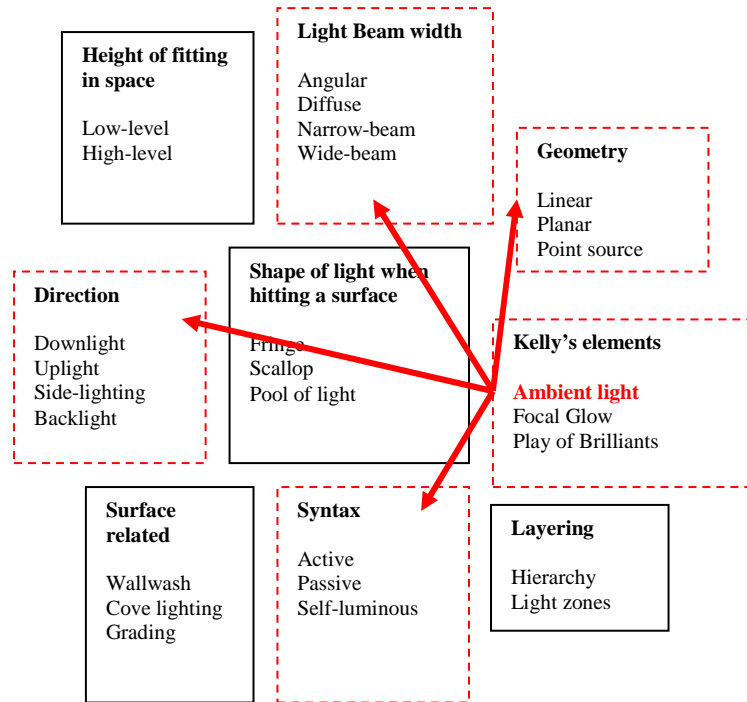


Figure 1.5: One description (here ambient light for example) can fit in more than one groups.

1.4 Light effects and space

Lighting in art has been explored extensively through the various art movements and their investigations in painting and sculpture. Impressionism, for example, was one of the largest and most influential, famous for its recording of the passing moment through light changes on the built or natural environment. Following on, Post-impressionism and Divisionism delved further into colour theories, mostly scientific (Dempsey 2002). But however sharp the insights those artists have had into visual laws and colour theories, none has managed to have such a strong influence on architectural lighting as the Light and Space⁷ group of artists. The difference between the other artistic movements and the Light and Space group lies in the way of conceiving and presenting the works of art to the public such as two-dimensional canvases compared to three-dimensional light installations, but it also lies deeper, in recognising the subjective nature of light and bringing it forward. Impressionist painters realised the elusive nature of light owing to its changes, but always presented their own personal recordings of it: the artist's impression; stills from an imaginary 'film' recorded in their memories through their own visual systems. Van Gogh's painting, for example, is a famous example of presenting night lights, stars or street lamps in an exaggerated mode (Figure 1.6), which provoked speculation on the possible individuality of his vision. Could Van Gogh's painting be exaggerated impressions due to emotional distortions or was he actually perceiving starlight in this way? Another example are the series of paintings by Arnold Schönberg, mostly known for his music compositions. In his series of paintings titled *Nocturnal Landscape* (Figure 1.7, 1.8) he has tried to capture the subjective nature of light and transmit the experience to the viewer through colour and contrast. In the specific example demonstrated in Figure 1.8, he has layered several films of colour to transmit to the viewer the obscurity of the night scene and after focusing on the painting for a few minutes the viewer can just make out a figure (Claustres 2003). This work involves the participation of the viewer to fully appreciate it; however, Light and Space artists were different in that they did not provide viewers with an image of a light impression the artist had experienced, but instead invited them to see the phenomenon for

⁷ A group of individual Californian artists are understood and commonly referred to as Light and Space artists. They have presented no manifesto but their work presents similarities in terms of concepts, materials (light) and presentation techniques. They have also been described as experiential, situational, phenomenal, phenomenological, site-specific and ambient and have evolved their work since the 1960s to the present (Butterfield 1993). This group includes artists such as Robert Irwin, James Turrell, Douglas Wheeler and Maria Nordman, but also other artists, such as Dan Flavin, whose projects could be ideologically more related to other movements. Flavin is usually related to minimalism but has produced single works which are here considered as belonging to Light and Space.

themselves and to gain personal new experience from it, without predetermining that experience in any way.

To be more specific now about artists and projects, Flavin has accustomed his public and critics to compositions of fluorescent tubes that he has mostly created for gallery spaces (i.e. *untitled (to Jan and Ron Greenberg)*, 1972-1973). Even though it can be claimed that his compositions offer another impression of space to the eye by rendering the surrounding walls with hues coming from the light sources, which is linked to the way the sculptures are positioned in relation to those walls, they could be easily considered sculptural rather than Light and Space. In contrast, his posthumous installation (*Chiesa Rossa*, Figure 1.9) and his late works (*Installation in Guggenheim and National Gallery of Art*, Figure 1.10) are distinguishable from the rest in the way they light space. *Chiesa Rossa* is a site-specific work and one that lights the three dimensional inhabitable space of a church. In this project he has used light to build meaning onto an already meaningful and symbolically loaded space. The light sources are not a stand-alone, self-sufficient composition that could be transferred from gallery to gallery, but they are studied and positioned for specific places only, the contours of the clean architectural volumes, washing them in tints, revealing their features and letting them be revealed by them. For example the overarched vault carries a carefully positioned row of light blue tinted fluorescent tubes along the edges of the base that reveal and define the perfect geometric curvature of the arch while the other hues in the background denote a change in structure or an intensified focus. In a similar way, the Guggenheim atrium space bears a light sculpture that has no identity on its own, but gains meaning in the specific space in which is installed. The vertical column of pink-tinted fluorescent lights paints the external facets of the balustrade in a uniform light so that they stand out in contrast to the recessed ramp space (Figure 1.10). It is an effect that is neither accidental nor independent of the space configuration.

The spatial characteristics of these creations lie in other features of the work too. Architectural space is usually defined in relation and in comparison to the human body. This is a fact that is often met in architectural discussions over proportions and scale in space. The church is a light composition that is enjoyed in that sense and created with that sense in mind. The effects that fill the space with ambient light are also meant to be enjoyed while the visitor moves from the nave to the transepts and approaches the end of the aisle, the chancel. This procession is typical of the visitor and the viewpoints he takes in space can very easily be predicted for the light artist to have created his work and for us to risk saying that the intention was to immerse the viewer in the light ambience he created. This immersion in a three-dimensional space is characteristic of Light and Space artists as is

apparent with other examples. In the drawing for the *Trace Elements* installation by James Turrell (Figure 1.11) the eye level of the average viewer is annotated as a thin line and the movement of the viewer from point 'S' to point 'B' is also annotated with small crosses. This is important to note because Turrell skilfully calculated the frame to be at approximately equal distances from the eye level. To achieve this he added a false ceiling with cloth. He also noted the part of the walking process where the illusion is most convincing for the viewer. From point 'S' the illusion is most intense but when he reaches point 'B' the viewer starts to understand how the illusion is made. What is important here is to discern that the construction of Light and Space artworks with the human body of the viewer in mind is one of the characteristics that work in a paradigmatic way for architectural light construction and that it reveals the strong influence of the former on the latter. The Light and Space group's projects explore light and perception in three-dimensional spaces, usually in internal spaces or landscapes for their own private use, and not in gallery rooms, by bringing the viewer inside the modified space to experience the work of art with his/her own body and senses, whereas painting and sculpture present either two-dimensional recordings of seeing light (Adcock 1990) or occupy the three-dimensional space with strong relations to the 'object' and not the containing space. Light and Space works do not present the object to the viewer but instead insert him into the work of art rendering him 'the subject'.

Most of the Light and Space artists also had a very clear idea of the effects they wanted to achieve at the concept stage and were working towards the intended effect usually in environments deprived of other visual stimuli, including other light effects. This does not mean that they somehow reduced the number of light sources or positions. Different lamps and materials (diffusers, filters or building materials) could be used but all orchestrated towards one single light effect. The result was often an effect so strong in presence – abetted by space configuration – that it dominated the whole room and totally consumed the viewer with its essence so that the viewer eventually felt immersed in it (Figure 1.12, Figure 1.13 and Figure 1.14). This is indicative of the artists' intentions and mostly their understanding of constructing effects they could strongly envisage but hardly describe in words. Robert Irwin, for example, refers to the lack of a critical vocabulary for describing effects while comprehending them as entities:

Certainly we can say that a nameable object – clouds – has passed another nameable object – sun. But how do we account for all the phenomena we experience in such an event? (Butterfield 1993)

James Turrell also refers to this, saying:

There is a critical vocabulary attached to painting and sculpture, but there has been no vocabulary attached to works of Light and Space – which further complicates the issue. (Butterfield 1993)

But Jan Butterfield also explains in the Introduction to his book *Light and Space*, the divergence of intentions between West Coast Light and Space artists and East Coast ones:

West Coast sought to make the statement separately from any object; they wanted to suggest the ripple of sunshine on water, the flicker of light through trees, a spill of moonlight.

Those investigations are mostly referred to in art criticism as investigations of light phenomena and sometimes as the capturing of the elusive identity of light effects. They prove that light effects are commonly understood entities – even though not easily described – and that this time they are approached from a different angle: demonstrated instead of being defined in words; experienced instead of being narrated. Critics have also tried to link these artists and their adherence to light with their indigenous experience of the strong Californian sunlight, but this is rightfully rejected through the argument that most of them used artificial light and not natural light for their work, which they tried to formulate and control towards achieving specific light effects in internal spaces (Butterfield 1993) (Riley 1998).

Another strong link with architectural lighting practice is the arrangement of space to serve the intentions of the imagined light effect. Lighting designers in everyday projects receive from architects their intentions for soon-to-be constructed spaces via conceptual or more mature material and after deciding on the light effects they want to employ in the specific space, they work around minor modulations of the architectural envelope in order to achieve a combination of perfectly unobtrusive light effects, seamlessly integrated with the architecture. Artists of Light and Space have used specific sites as their primary material, which they planned and modified to a flawless level to receive the light in specific ways, as demonstrated in Figure 1.11, Figure 1.12 Figure 1.13 Figure 1.15 Figure 1.16 and Figure 1.17. In Figure 1.17 a photographic record shows Turrell himself plastering the surfaces (left image) to achieve the flawless result of the light effect flowing through (right image). A very indicative example is also the *Lunette* project by James Turrell (Figure 1.12).

Lunette, which Butterfield calls an 'architectural amplifier' (Butterfield 1993), is a second-storey slim corridor topped with an arched ceiling that ends in a glass door and lunette. Turrell covered the original structure with plasterboard and the lunette with a diffuser so that, in daytime, filtered light enters the lunette while fluorescent tubes along the arched

roof endings complement the light, evenly reducing the gradation of natural light while intensifying the uniform curvature of the arched ceiling. At night, the artificial light from the tubes dominates the scenery and eye adaptation helps perception of the effect as intense an experience as during daytime: a perfect wash of light along the curved surfaces of the ceiling. Together with the *Skyspace* series of projects by Turrell (Figure 1.13, 1.15), *Lunette* is an indication of the organisation of space to accommodate a single perceptually dominant light effect and to invite the viewers to explore the changing nuances of light from morning to sunset to night (Adcock 1990). For this reason all details of the corridor have been concealed (window panes, wall textures and uneven surfaces) to let the light really work as an architectural amplifier, an intensification of the geometric forms.

Light phenomena in these projects are perceived as altered by space but also space is perceived to be modified by light. Millet, elaborating on C. N. Schultz's words on building forms and their 'attitude' to light offers this observed phenomenon as an axiom:

The forms that we see in a building, and the way that we see them, are due to the way in which light is admitted by the form as well as the way in which the form than models the light that has been admitted. (Millet 1996)

This interaction happens at the level of visual perception and because of how our vision system works: *the way things seem to be*. That is the main goal of the Light and Space artists: to investigate the perceptual phenomena that occur when light and space interact in this kind of isolated intensified phenomenon. *Lunette* and the *Skyspace* projects, for example, were projects to be fully appreciated with the passing of time and the changing of light and not as static images. But even in static mode Turrell has made works that appear to change qualities and this is due to the adaptive nature of our visual system. *Blind Sight* is another installation by Turrell, which leads the visitors by transition into a very dark room, thus allowing them time to adjust to scotopic vision (Figure 1.16). When adjusted, the visitors, where they could before see nothing, slowly start to discern random-lit patterns from very dimmed spots, which after being looked at for approximately 10 minutes of adaptation to the dark seem to disappear, leaving a fleeting vision in the periphery. Turrell explains this project as seeing at the threshold of 'inside' and 'outside'; at the point where imaginative seeing meets outwards seeing (Birnbaum et al. 1999). It is the point where the cone area vision switches to rod area vision.

The work of Robert Irwin (Figure 1.18) and Maria Nordman also gives many examples of the preparation of space so as to receive light in specific subtle or intense ways. Even though Turrell has worked extensively with the bathing of space in coloured light, Irwin and

Nordman have selected white or tinted ambient light to create different impressions of 'exhibiting' and simultaneously 'exhibited' space. But the variety of light effects created by Light and Space artists is not just limited to ambient light – even though it is often preferred because of its subtlety and disengaging presence. Similarly, rich constructions of light effects and space have been perceived, as a synergy of space and light, using beam/accent light, or clearly defined planar sources such as the examples of Anthony McCall (Figure 1.19) and Melissa Gould (Figure 1.20) (Riley 1995).

This artistic work and its relevant criticism are cited here because it creates a strong conceptual link between light and architectural space, and also because these artists have deeply understood the notion of distinct light effects, a notion fundamental to this thesis, which needs to be defined here at an initial stage before setting out to investigate how it is understood in lighting design. The term 'light effects' will be repeatedly used and discussed in its holistic definition, not just as a practical term of the profession but also as a notion bearing universal qualities for all. These artists have captured the essence of light effects with their actual visual presence; they manufactured them without reducing their subtlety and subjectivity, always seeing them as phenomena from the point of view of human perception. Terence Riley also refers to the invaluable role of those artists in contemporary architecture because he holds that Turrell, Irwin, Graham and others have investigated the role of light in defining space and experience. Criticising Modernism for its obsession with transparency and for its absolutism, he attributes the loss of an opportunity to render architectural spaces with subjective references to the objectification of light and space by the early modern architectural masters, who focused on the quantitative sense, hence excluding the qualitative (Riley 1998).

On the notion of light effects.



Figure 1.6: One of the famous Van Gogh starry sky paintings where the main theme is again the dominance of stars and city lights against the night (*Starry Sky*, 1898). But the brightness and the constancies presented by the artist are an impression and not a realistic, carefully measured depiction. By the end of the 19th century artists had begun to consider light and its subjective representation as a compositional element (something they decided upon) and not a natural representation element (something they had to imitate as realistically as possible). Source: *Dossiers de l'art*.

Figure 1.7: *Nocturne* by A. Schönberg, 1911. Here the clear impression of street lights defines space and dominates the scene. Source: *Dossiers de l'art*.



Figure 1.8: *Arnold Schönberg, Nocturne II 1910. Oil on board.* Dark colours leave a very vague description of the landscape borders until the eye adapts and gradually makes out a figure in the foreground. This painting belongs to the avant-garde pre-war experimentations of light and space depictions. It employs the viewer's effort to discern meanings and subtleties; as two-dimensional recordings the possibilities are limited to the potentials of colour on canvas. Source: *Dossiers de l'art*.

On the notion of light effects.

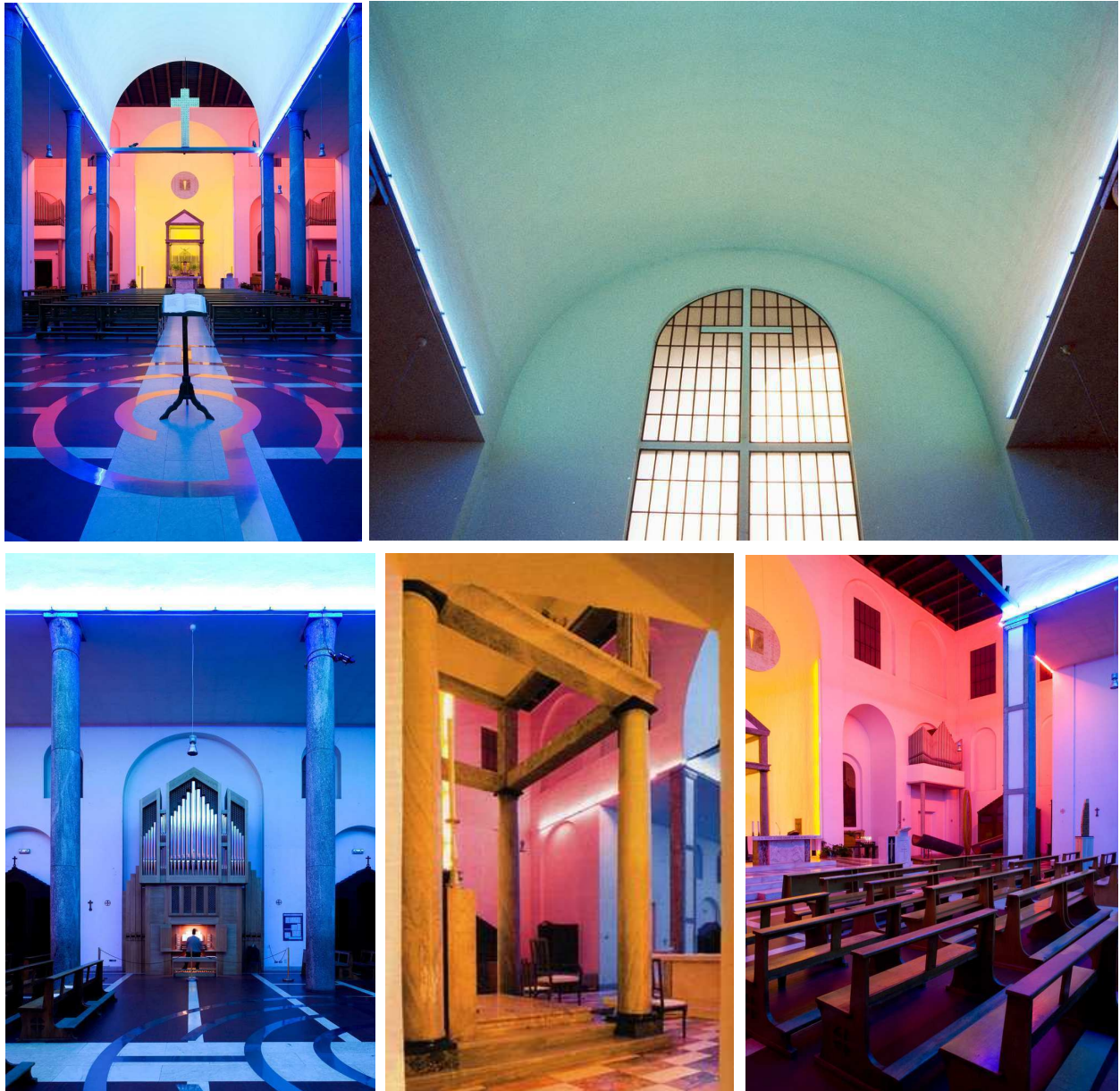


Figure 1.9: Views from Chiesa Rossa. Light installation in the existing church of Santa Maria Annunciata in Italy by Dan Flavin. The material used is the well-known tinted fluorescent tube but this time incorporated along the contours of architectural volumes submerging the different divisions of the church interior into variable ambient light: blue, pink and yellow.

On the notion of light effects.



Figure 1.10: Some other Dan Flavin's site-specific installations. Top: in the National Gallery of Art mezzanine terrace *untitled (to you Heiner with admiration and affection)*, 1973, source: National Gallery of Art, Washington, DC (www.nga.gov). Bottom: spiral rotunda of Guggenheim Museum atrium *untitled (to Tracy to celebrate, the love of a lifetime)*, 1992, source: as before.

On the notion of light effects.

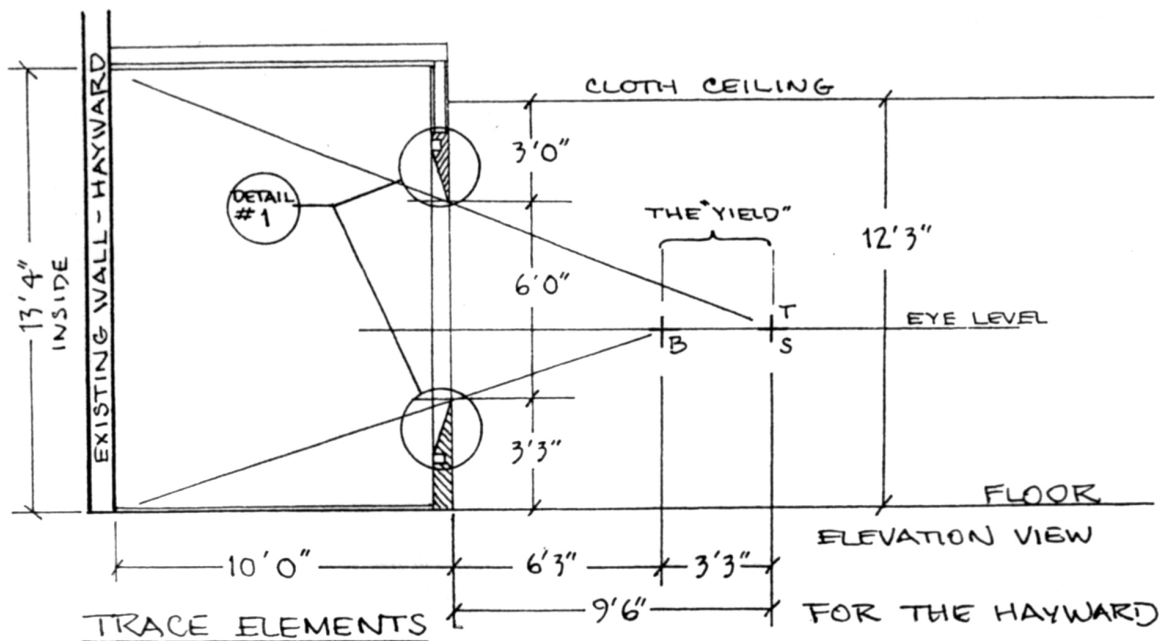
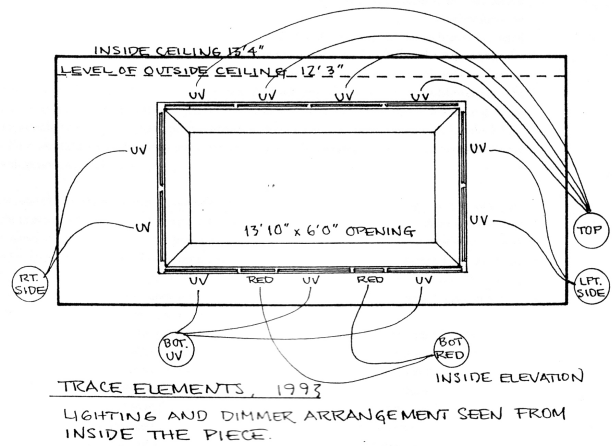
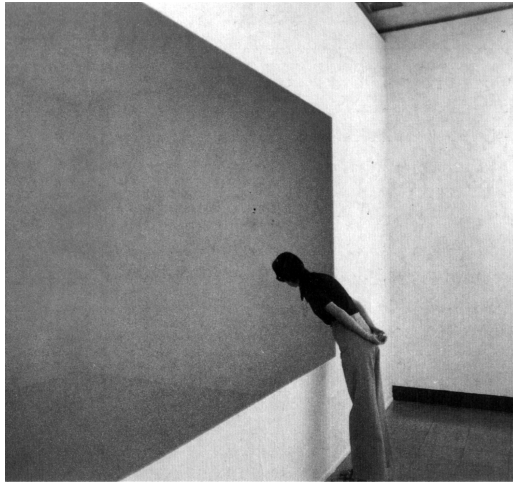


Figure 1.11: Drawings and picture from *Trace Elements*. James Turrell, 1993. The gallery space is altered to create the desired illusion. A cloth covers the real ceiling dimensions and splits the space over and under the 'imaginary horizon' marked as 'eye level'. Once again the space is modified around the experience of the user and human body proportions (notice 'eye level' annotation on the drawing). Only when the user approaches the opening closely enough does he realise the void and the three dimensionality of the space behind. Seldom does he lean forward to see why his vision has been deceived (top left). For installation at the Hayward Gallery, London, UK.



Figure 1.12: James Turrell, *Lunette*, 1974. Hallway in Villa Panza. Before the installation (left), the space as it was. Daytime view (middle). Night-time view (right).

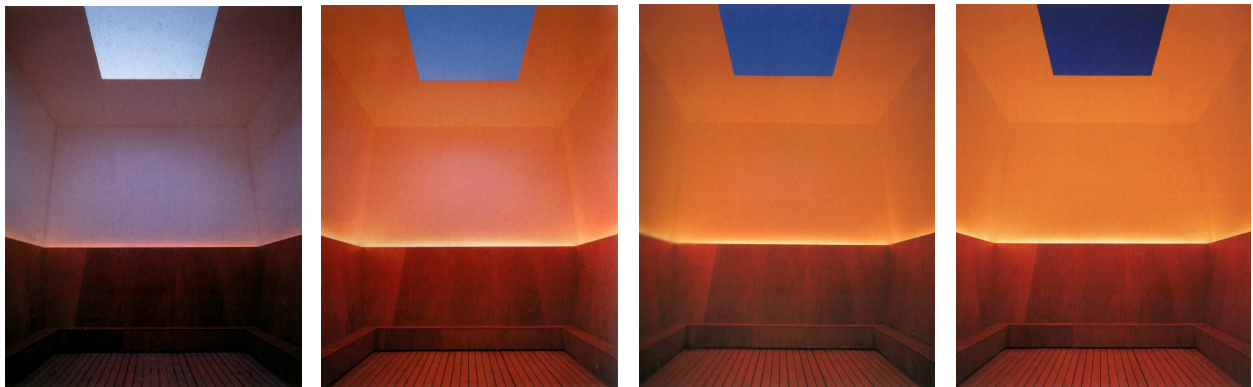


Figure 1.13: James Turrell, *Skyspace*, 1976. Various locations. From dawn to night-time, the work demonstrates the changing qualities of the general light originating from two main light sources: banquette seating linear lighting and daylight entering the skylight. The photographic lens records also the changing perceived brightness. In frame 1 (from left to right) the banquette lighting is perceived as very dim compared to when the daylight is practically gone from the visual field in frame 4.

On the notion of light effects.

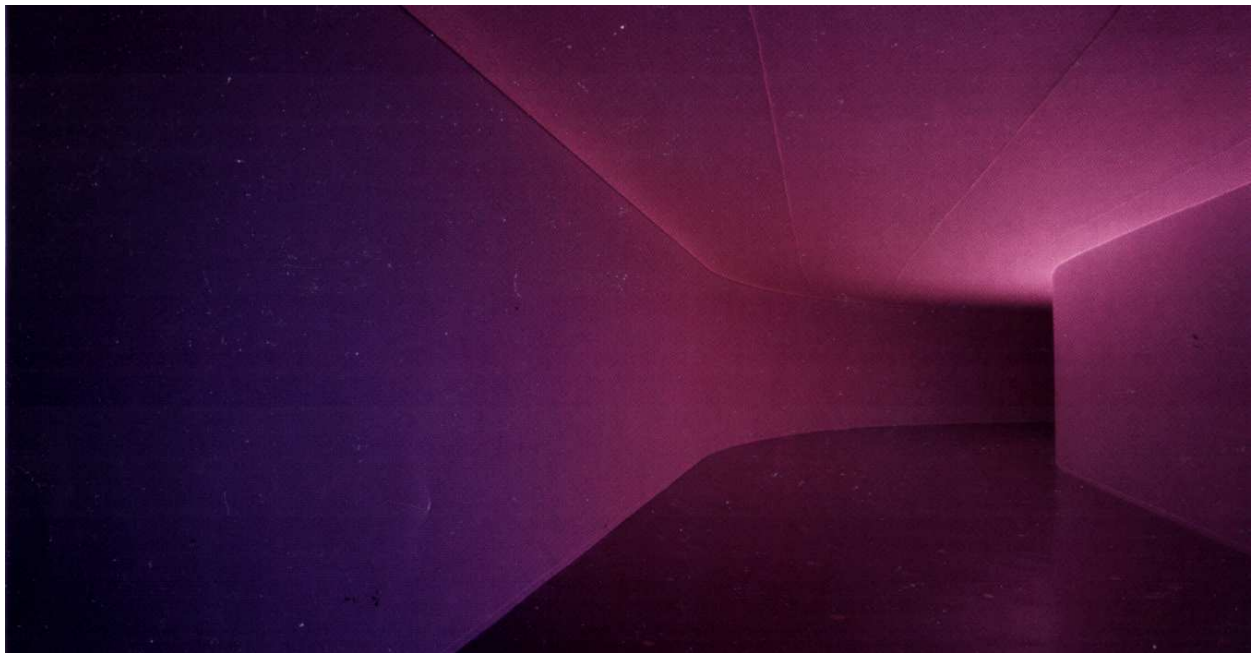
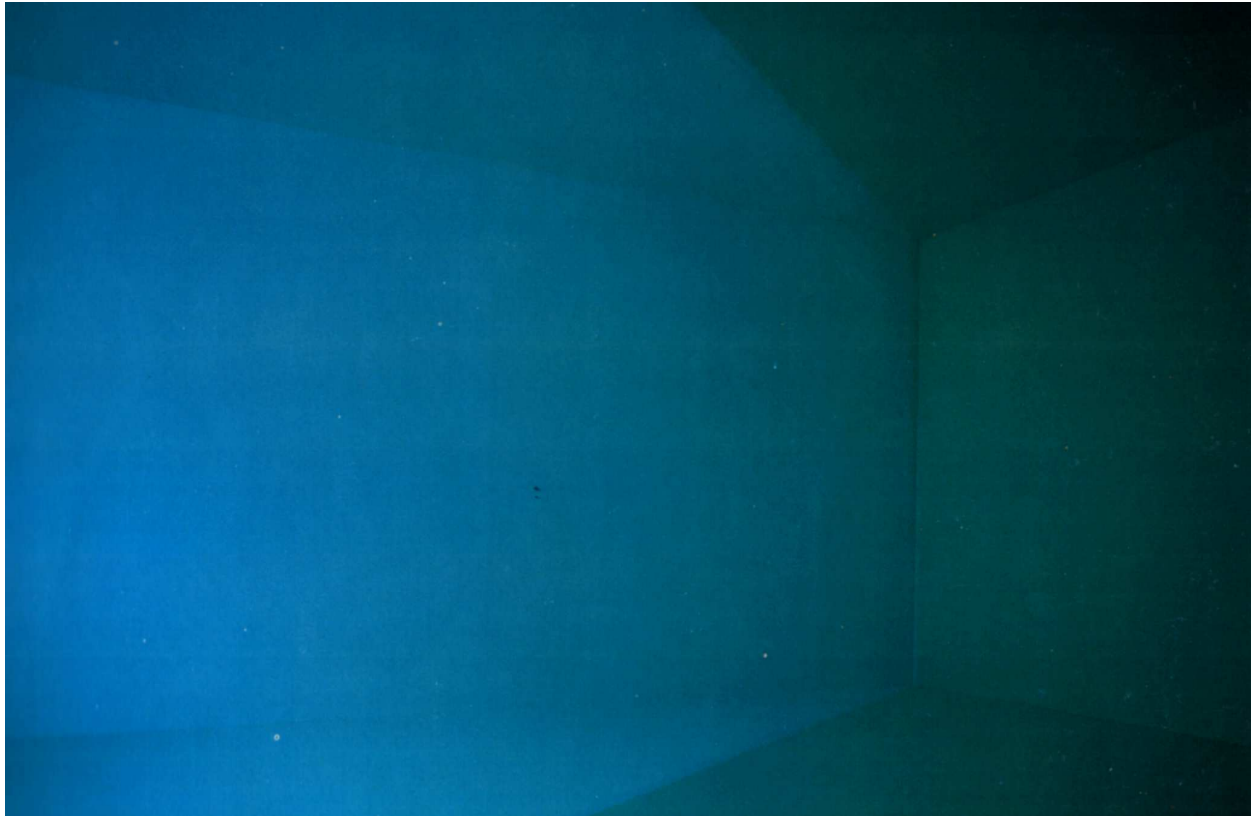


Figure 1.14: *Hallwedge*, 1969 (top) and *Red Around*, 1983 (bottom). The singling out of light effects to become dominant in the hosting space. With the masterly arrangement of light sources in space Turrell bathes the rooms in ambient soft light that originates – and is understood as flowing from – a single structure each time.

On the notion of light effects.

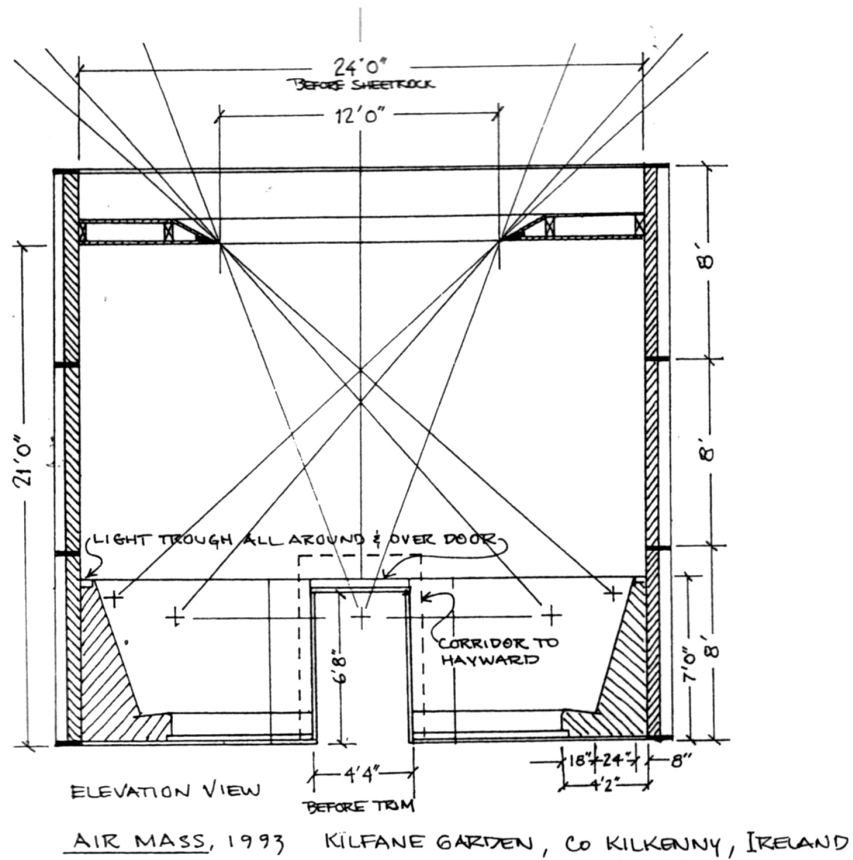


Figure 1.15: Section drawing for Turrell's *Skyspace* series. Small cross signs represent the possible eye position of the visitor and the lines drawn from that point to the edges of the skylight are the sight lines for unobstructed views of the sky dome. The opening wedges and the overall dimensions of the structure are based on human body analogies. Drawing from James Turrell (Birnbaum et al. 1999).

On the notion of light effects.

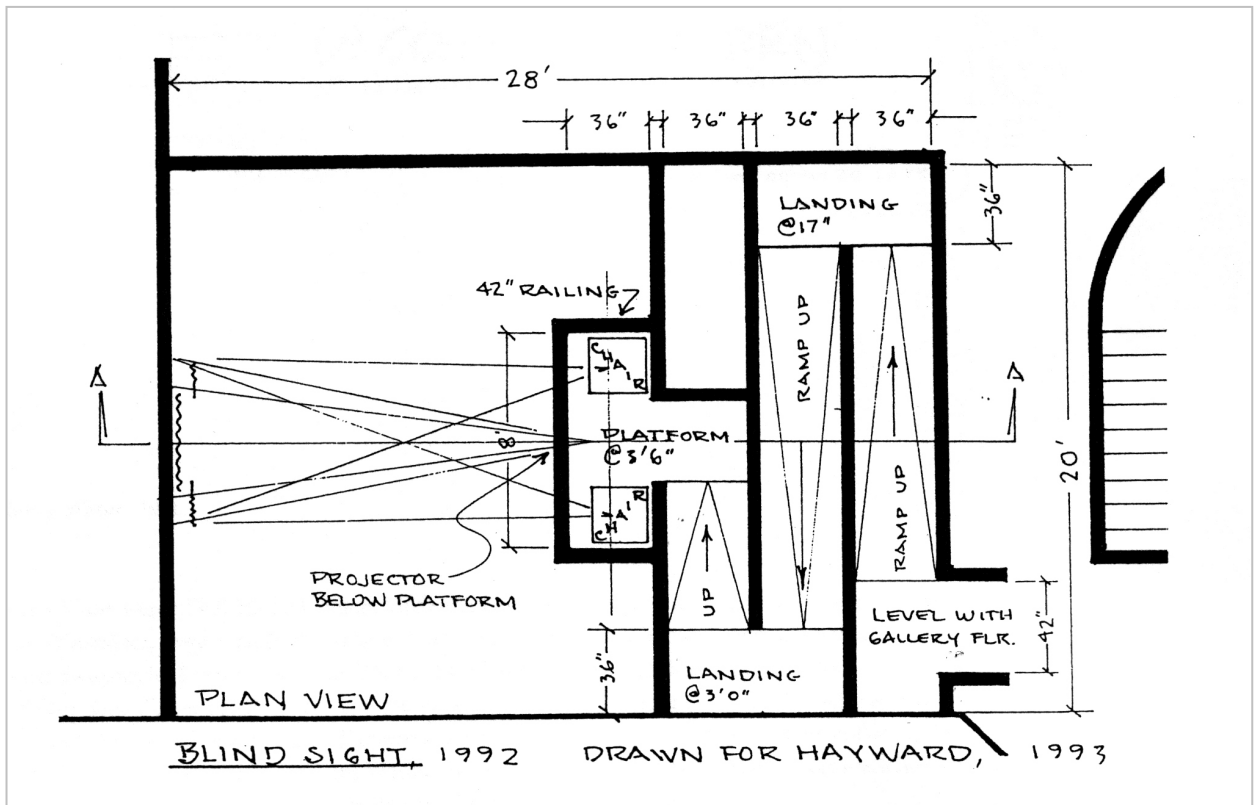
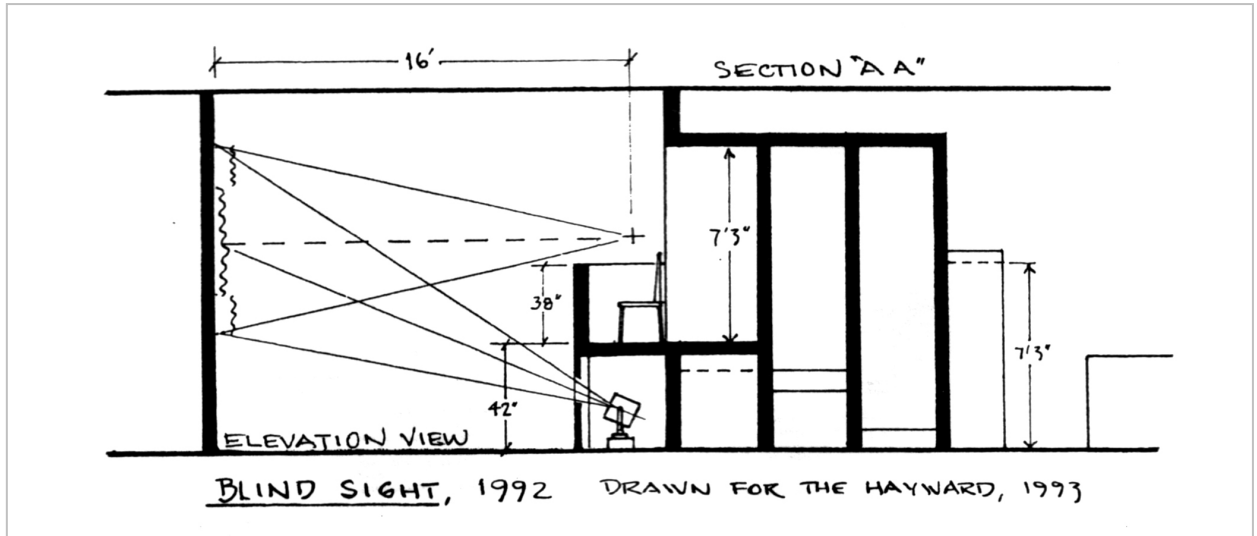


Figure 1.16: Drawing for *Blind Sight*. James Turrell, 1992. This time the alteration of space (series of ramps) serves to create the gradual deprivation of light and the adaptation to scotopic vision, while the change of level serves the alignment of the eye line to the dimmed projection. It also enhances the feeling of hovering in a very dark space which is appreciated as borderless.

On the notion of light effects.

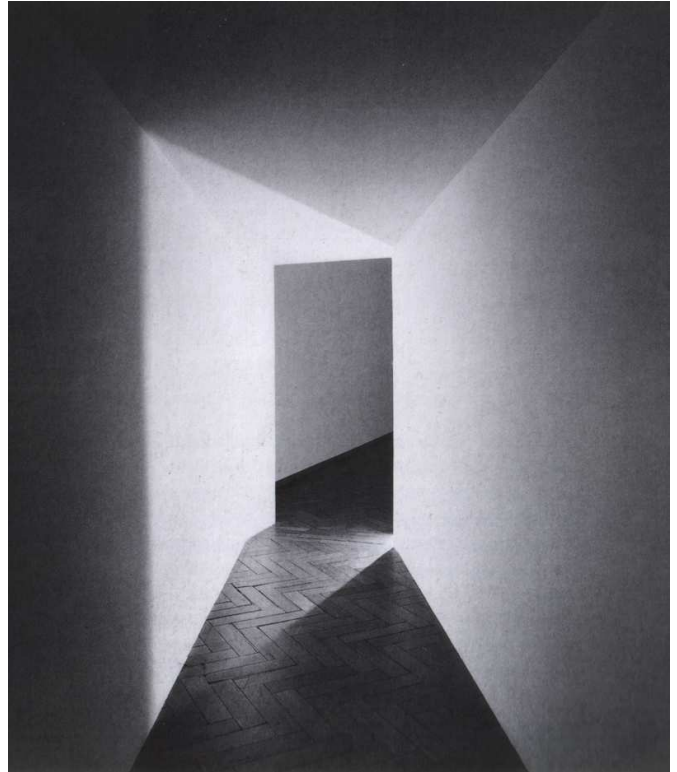


Figure 1.17: James Turrell plastering the walls for a flawless even surface and to secure a smooth incidence of light. The artist becomes a designer and a worker implementing his own concepts. The Light and Space artists act as an influence on the current role of lighting designers in construction.

On the notion of light effects.

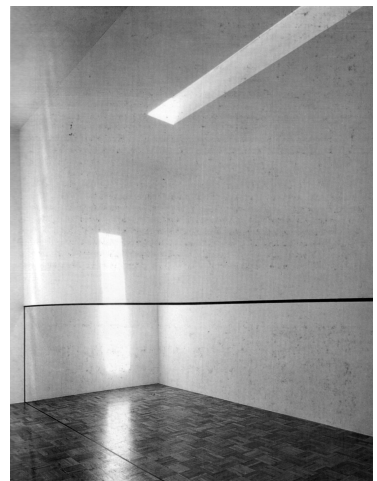
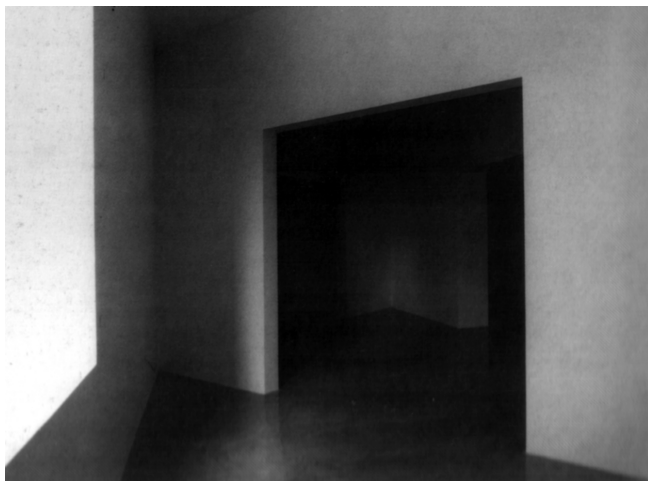
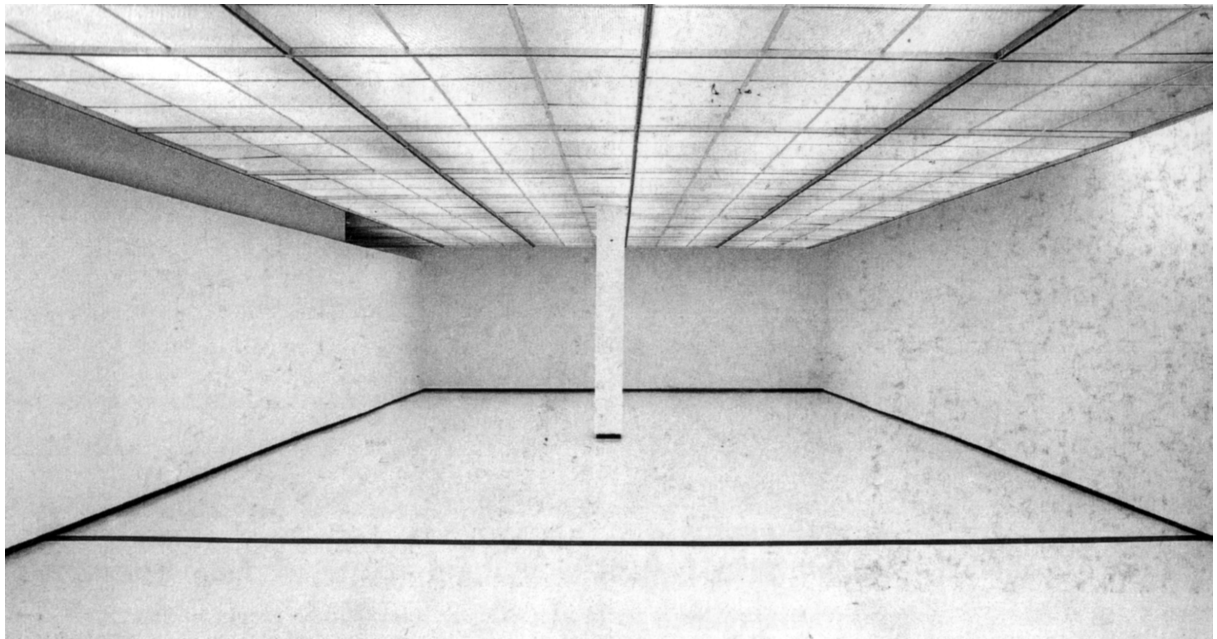
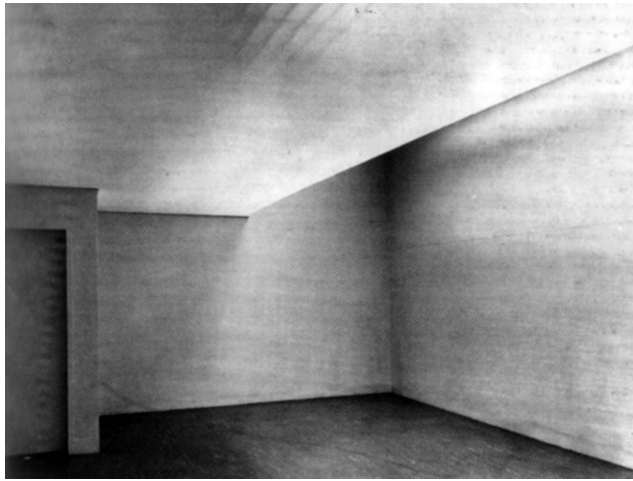


Figure 1.18: Irwin's set of light and space works: Top left, fractured light – partial scrim ceiling – eye-level wire, MoMA, NY, 1971. Top right, Window Room, exterior, Varese, Italy, 1973. Middle, Black Line Volume, Chicago Museum of Contemporary Art, 1976. Bottom left, Portal Room, interior, Varese, Italy, 1973. Bottom right, Scrim Veil, Mizuno Gallery, Los Angeles, 1975. In most of the works Irwin used simple materials such as scrim and wire to create light effects so subtle the visitors understood them as empty gallery spaces.

On the notion of light effects.



Figure 1.19: Anthony McCall. Examples of his work where intense beams of light define space.

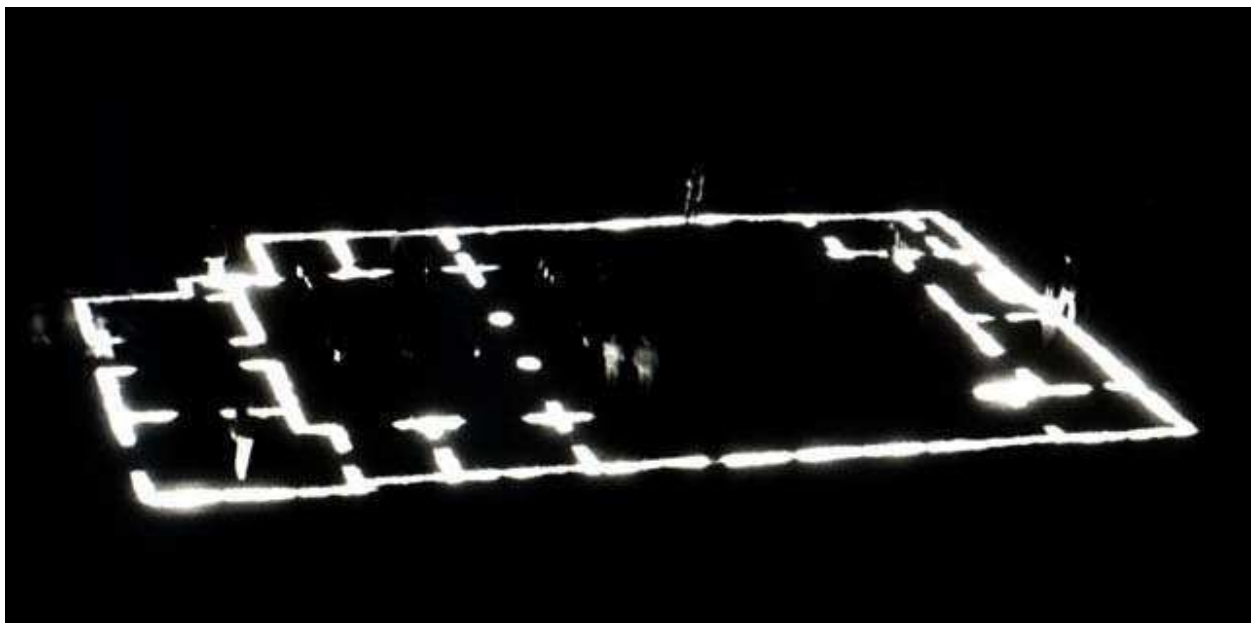


Figure 1.20: Melissa Gould. *Floor Plan of a Jewish Synagogue*. Light implying space with its non-material presence. Backlit panels on the former position of the Jewish Synagogue walls in an exterior installation. Gould is not considered a Light and Space artist but this work bears many conceptual similarities as a light-forming space percept. Sourced from (Riley 1998).

1.5 Developing the research question

The theoretical part that makes up Chapters 1 and 2 examines the fundamental notions used in this thesis and how they have been documented or defined, the broad research field and the narrower research field, and declares intention of the research to focus on what is understood as a knowledge gap. In the previous sections the notion of light effects in verbal expressions used by lighting designers and as mental images evoked by artists has been presented. The second approach supports the first one, not only in strengthening the argument of an existing notion which occupies two intellectually diverse (although not completely different) disciplines, art and architecture, but also in providing a conceptual basis for examining them more effectively by introducing the element of space. This changes entirely the route of research from studying the generic criteria for light effects to their spatial characteristics. Usually a literature review precedes any research endeavour and this one has not deviated in that way. The following chapter introduces the most striking theories of classification of light effects, looked at from the point of view of extracting concepts that can illuminate this quest. It uncovers former typologies of light effects set out by practitioners, researchers or scholars who have dealt with the subject. The most important of these are examined extensively, but some secondary or incomplete ones are also mentioned. The plurality of documented classifications indicates the interest in this subject. This chapter consists of an almost historical approach that distils the parts that influence today's thinking on lighting design and then, in the following chapter, a critique and a hypothesis are shaped. The critique focuses on the common criteria that seem to dominate historical typologies, questioning whether those criteria have a more holistic value in lighting design and do not just serve the purposes of each contributor's theory. Based on this, the hypothesis that five elements underlie those classifications is made, together with the theory that those five elements can be more sophisticated and serve as five underlying principles that encompass all light effects.

A subject is rooted in everyday practice has to be tested for its validity in everyday practice. This is why the study is twofold – empirical as well as theoretical – and uses a variety of techniques of both kinds. Chapters 3, 4 and 5 explain the empirical part of the thesis, which is introduced to examine how the hypothesis relates to the current active body of lighting designers. This is thought essential because a study of a professional body's values on design would be invalid without their input, especially when a serious body of literature on the subject is lacking. Chapter 3 examines what research has been applied in the special domain of design, namely 'Design Studies', and on what

methodological base those studies have been carried out. Do they serve the goals of this particular research? Methodological strategies useful to this study are decided and the reasons behind the theme of the interviews, a case study for the participating designers, is explained. Chapter 4 follows the route of designing the case study (a residential building) to serve particular requirements, from initial ideas to final drawings and presentation techniques. It also narrates the process followed in video-recorded interviews. The open-ended interviews with lighting designers, all coming from London-based practices, are recorded in action. Their resulting data consists of their verbal expressions, their sketching and their videos filmed at the design table. These three are then analysed in Chapter 5 towards a clarification and a testing of the hypothesis formed in Chapter 2. Finally, the results of the empirical study over validity of the theoretical investigations are discussed in Chapter 6. It proves interesting to follow designers' reactions when given the same space to light. Each designer has built his/her own logic and defines different 'problems' that need 'solving', but all share common values on light design which they practise in the 'house case study'. Never before in the discipline of architectural lighting design have the decisions over one scheme, of two or more designers, been compared and systematically analysed. In that sense this study is unique, and if the research topic could be summarised in one sentence, then that would be as follows:

'A theoretical investigation of designers' perception of light effects and an empirical study of how they use them in architectural lighting design'.

Chapter 2

Emerging principles

2.1 Light effect classifications: a recurring theme

There are examples of some kind of classification of light effects in almost every handbook of interior design or lighting design. It is also a recurring theme in articles published in the various professional magazines and at professional conferences (Laganier 2006) (Clair 2003) (Zielinska 2006) (Reger 2006) indicating a need in the profession for theoretically clarifying a loose set of ideas about different light treatments. Often referred to as 'different ways of lighting', and giving popular names of techniques, they are juxtaposed with images of examples. A quick look is enough for anyone to understand that they mostly tend to be deficient and unsystematic and have little applicability as they often mix more than two characteristics and lack any basic consideration of space, even in the abstract sense. Most of the examples present an identical configuration of one or more three-dimensional objects; a sphere or an arrangement of geometrical volumes, a bust or a sculpture. Space elements¹ are totally absent – at least on a conscious level – and this diminishes the number of effects presented and the contribution of *space* to the effect creation process. Since the subject of architectural lighting design is primarily concerned with space it is incomprehensible how it can be excluded in this very important tool of lighting design.

To give some examples, in Figure 2.1, the classification takes place according to the direction of light source (along a vertical axis), while the schema is also annotated with 'recognisability' and 'formation of silhouettes' parameters varying along the other two axes, without clarifying, however, *how* direction affects recognisability and the formation of silhouettes and without informing on the cause and consequence relationship that clearly is of major worth to design. This is essential because a lighting designer is able to plan and control the causes (direction of light source) but can only speculate and visualise the consequences of his/her decision: the formation of silhouettes and the recognisability of an object. In another example, illustrated in Figure 2.2, there is a classification based on the criteria of direction and beam concentration. It includes, however, an extra effect at the end, named 'occasional lighting', which is illustrated with a self-luminous object, possibly with some sparkle on it, and is clearly heterogeneous to the previous effects. Again in Figure 2.3 a classification is based on direction but the top left image and the one directly below differentiate between 'diffuse' and 'direct uplighting'. A somewhat different approach is illustrated in Figure 2.4. Here, effects are

¹ When referring to space elements here examples such as scale, depth, perspective, orientation or enclosure are meant, qualities that betray a relationship of light to inhabitable space, rather than standing sculptural forms.

classified first according to the pattern and contrast of shadows and silhouettes while further down in Figure 2.4 there are attempts to associate contrasts with a general feeling of space, or function (theatrical or convivial). The author of these attempts associates general feelings of space with the level of light source (high, medium, low) and consequent direction of light (upwards, sideways, downwards etc). Of course it can be argued that 'up' and 'down' are already space parameters, albeit abstract, but when talking about *space* are they considered adequate criteria? Looking more closely one would notice that the 'direction of light' criterion is also a recurring theme in all four examples, while it is also being mixed with 'different sources' (candle lighting or spot lighting) and beam concentration criteria. Eventually, mixing too many parameters reduces the strength of those classifications and their applicability; multiplying criteria means multiplying the number of effects quoted and this eventually creates chaotic matrices or lists. However, in all examples one can easily find that many well-known effects are absent.

The examples illustrated are an anthology of cases indicative of a general tension, but not pervasive enough. They illustrate a fact – the use of colloquial terms for light effects in the lighting design profession – but they do not offer any theoretical input for the explanation of this kind of lore, nor its transferability, namely how they can be used for educational purposes. Chosen as the most complete ones in the literature researched and having been sourced from specialised and generic bibliographic fields such as visual studies, the following selected classifications have been created by various researchers, scholars and practitioners and bear distinct criteria which are underlined after each presentation. Within them can be found a certain way of looking at light effects among the relevant terms and generally through the understanding of light effects by lighting designers, and this can easily be traced in the present. They are not so much theories of understanding light and its nature in a holistic sense (with the exception of Richard Kelly's approach, which bears a holistic conception of lighting effects in all environments), as techniques of applying electrically produced light in controlled ways to achieve intended visual results. Each contributor seems to have focused on one or two defining characteristics of light which can be controlled – owing to the readily controllable nature of artificially produced light – and alter the whole visual effect of lit space. Unlike the examples presented above, types remain consistent to the chosen characteristics and the effects are evidence of a causal link between parameter and visual result.

Different researchers or designers have focused on different criteria, although some are repeated. There is, for example, some persistence on the *positioning* and *aiming* of the

fittings in space, as a decision predefining the consequent light effect. Does this come from the practical knowledge of the designer/researcher, basic problem-solving in design in the form of: where to place the light source in space and what to aim the light at, or does it contain some more theoretical connotations, which eventually aid the lighting concepts to gain an identity? Clearly the writers could not always be aware of their own principles in the design approach that underlined their theories. Trying to understand the principles behind those groupings of characteristics may give indications of the definition of light effects and their understanding by lighting designers. In this chapter there will be some brief presentation of classifications gathered from the admittedly sparse literature. Some inputs will be presented in a rough frame of general historic context and the synchronous challenges for the researchers. For example, the McCandless technique will be presented as an answer to the particular problems faced in the Modern Theatre and Kepes' and Moholy-Nagy's experimentations will be explained within the context of the usual Bauhaus artistic issues. This is necessary for the reader to grasp the challenges and circumstances that led the artists to distinguish specific properties of light and space and to experiment with them rather than with some others. The reader will encounter those in the third chapter as selected 'principles' of light design which are embodied in the research strategy. The narrative of this thesis is in fact the actual research path taken by the author and this first part is explanatory of the forming of the hypothesis.

This documented obstinacy about classifications has so far been taken for granted. The thesis tries to render this more concrete and substantiated without enquiring into the reasons for it appearing in the first place. So, it is natural to ask why there is this persistence on behalf of the designers. How did this assist the design concepts? It does not appear satisfactory to say simply that it was a matter of organising them for more effective studying, because lighting design has been primarily an applied practice and not a theoretical one. Theory (of the design kind at least) has come into the profession at a later stage to rationalise observed practices. There must have been some outcome expected out of the effort of classifying light effects other than formalising the idea of 'light effect'. Searching back on types as a methodological or analytical tool one could expand endlessly on types and classifications, with arguments for or against them. Specifically in architecture and planning types and typologies have been criticised for referring to historical forms concretised in time but opposing creativity or diminishing it to a mere jigsaw combination of outdated elements. On the other hand, there have been arguments that creativity is nothing but the combination of expressed ideas that dominate types only to be skilfully adapted to contemporary contexts later. When referring to lighting design, there are no acknowledged solid historical forms that work as

archetypes,² only light sources and techniques and this fact unarguably weakens the whole quest. Typologies in design are also often linked to the *pattern language* of Christopher Alexander, which as a design method has also received its share of criticism and later been denounced altogether. Different classifications exist in different disciplines serving different purposes, and as such they have offered different progress in theoretical thinking in each one, but if one applies the architectural theory analogy to lighting design – which is consistent with the general approach of this study – one finds plausible answers for the designers' profound persistence in classifying light effects.

In architecture 'types' have had a long history, as depicted in Vidler's article, 'The idea of type' (Vidler 1977). Regardless of the various forms types have taken in the past according to Vidler (origin, character, model, organisation or style), the *idea of type* has informed the production of architecture in two ways. Firstly by rooting in architecture principles and secondly because it provided a basis for the generation of an entirely new species of building. Professional consciousness and clarity of thinking as well as the promotion of innovation and creativity – those are the virtues typologies have inspired in architecture. Based on that, Rowe states:

typologies embody principles that designers consider unvarying. As heuristics they allow us to apply knowledge about past solutions related to architectural problems (Rowe 1994).

Here Rowe makes the clarification that design is seen from the 'information-processing' point of view rather than the phenomenological one, which involves more fantasy. From the problem-solving point of view Rowe refers also to the origin of some types in architecture: 'Some types might stem from current practice or lore, without overt historical references. Other times from forward-looking positions' (Rowe 1994). Lighting design, as has been mentioned in previous chapters, has lacked the literature and theory that would provide a theoretical base. Those classifications are considered the first serious attempts at singling out 'principles' that could contribute the basis for lighting schemes by solving various lighting design problems, in an analogous way to architectural typologies. Given the short history of the profession this would also justify the primitiveness of those inputs, the fragmentation and the acknowledged incompleteness. Those principles seeking to be expressed through lighting design

² At least archetypes resulting from practising the profession of lighting design and not archetypes originating naturally from the experiences of the observers. This is a diverse body of knowledge available to all observers and is dealt with more extensively in Chapter 4.

classifications could also be understood as answers to problem-solving. But what problems do they respond to? What problems are recurring in the light design process? Before going on to answer this, and because of the attempted analogy to architecture, the given diversity between typologies calls for more specific definition.

Rowe divides typologies in architecture and urban planning into three sub-classes, the main characteristic of which is the different level of complexity of the elements and their use in problem-solving. From more to less complex he distinguishes between:

- **Building types as models** (representing characteristics worthy of emulation)
- **Organisation typologies** (framework and reference for solving problems concerning the spatial distribution and conformation of functional elements)
- **Elemental types** (prototypes for solving general classes of design problems)

The first type is that of models, which are in fact complete solutions, worth emulating. The degree of creativity is small as they are often considered complete and coherent. For example, the Panopticon is an iconic building which comprises all forms: organisation, architectural style and values. The model according to Quatremère de Quincy is understood in the practical execution of the art as 'an object that should be repeated as it is'. The type on the contrary, an object after which each can conceive works of art that may have no resemblance' (de Quincy 1977). The second type is not describing solid entities (buildings) but is more descriptive of established organisational relationships between different elements. The virtue worthy of imitation here is the way in which they are organised to provide solutions and not just their characteristics. For example, how to arrange the corridors in an open-plan office in order to reduce the circulation distances. Those values could be applied to more than one combination of elements. And the third category of lesser complexity is the elements themselves, which respond to itemised small problems, for example, the problem of entry into a building.

Elemental types can be named accordingly as the most basic components of light compositions, having the necessary vagueness that can be seminal in design conception and not in more complex programmatic solutions. The entry into a building might seem a very immediate and simple problem to solve in architectural design. Not containing any other information, such as the potential circulation routes in the entrance of the building, or the ability of the users, or how small the containing space is or the use of the building, it allows various questions around it to help reconsider and reformulate the task depending on the larger scheme. Likewise, light effects such as 'downlighting' bear descriptive names which give information about some light characteristics but none on

the containing space and therefore are the elemental ones as opposed to effects such as 'task lighting' or 'office lighting', which give information about the light quality (sometimes, and quantity) in relation to the function that takes place in the space. Moreover, elemental light effects can be contained in more complex ones. Task lighting can be achieved with downlighting. Besides, task lighting is a term that can cover more than one combined light effect. It can consist of general diffuse light in the enveloping space complemented with extra local desk light, for example. While the term task lighting predefines the function (reading or writing or looking at a computer monitor) and predisposes the usual solutions that are used in office buildings, 'downlight' sees only the effects isolated from space (a downward distribution of light sourcing from a ceiling or niche), which could be employed in various occurrences. So 'downlighting' is an elemental light effect since it is vague enough and not space specific, but 'task lighting', which already contains a space character and a functional requirement, is not elemental. The next question that has to be answered is what kind of lighting design problems do these elemental definitions answer?

It has been mentioned that problem-solving is part of the creative process and that classifications often answer problems that are regularly met in design. Therefore, solutions are classified according to the nature of common problems encountered. Light effects that have common characteristics constitute different alternatives to a recurring design problem. Five large groups of design problems have been identified after carefully examining the existing literature and after casting a necessarily critical eye over it. They are not presented for discussion of their validity but as possible principles under which lighting design flourishes intellectually. Beginning with the most direct, which deal with the physical characteristics of light, the chapter moves on to the more abstract organisational ones.

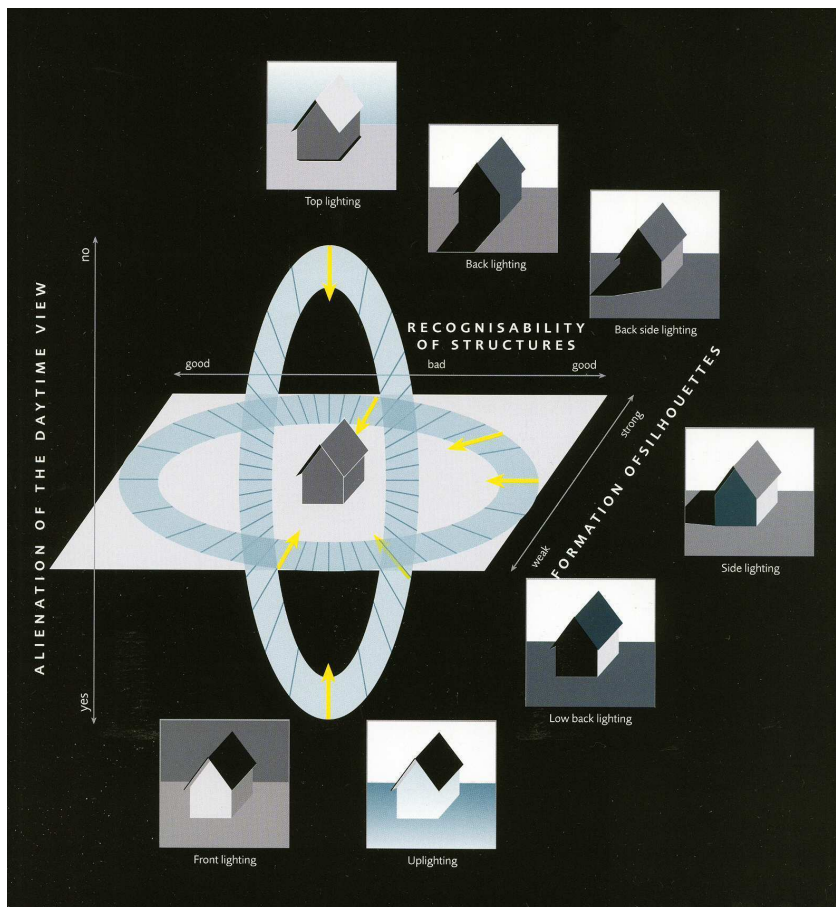


Figure 2.1: Classification of light effects for daylight related to 'recognisability of structures' and 'information of silhouettes'. Published in *Professional Lighting Design*, No. 47, Jan/Feb 2006, p.63.

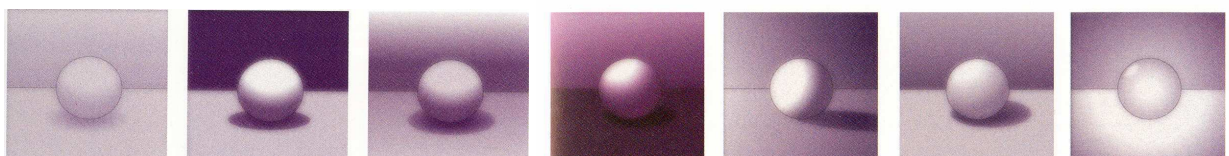


Figure 2.2: Different light qualities explained in the lighting handbook by Conran and Bond (Conran and Bond 1999). From left to right: ambient, downlighting, uplighting, spot lighting, candle lighting, task lighting and occasional lighting.

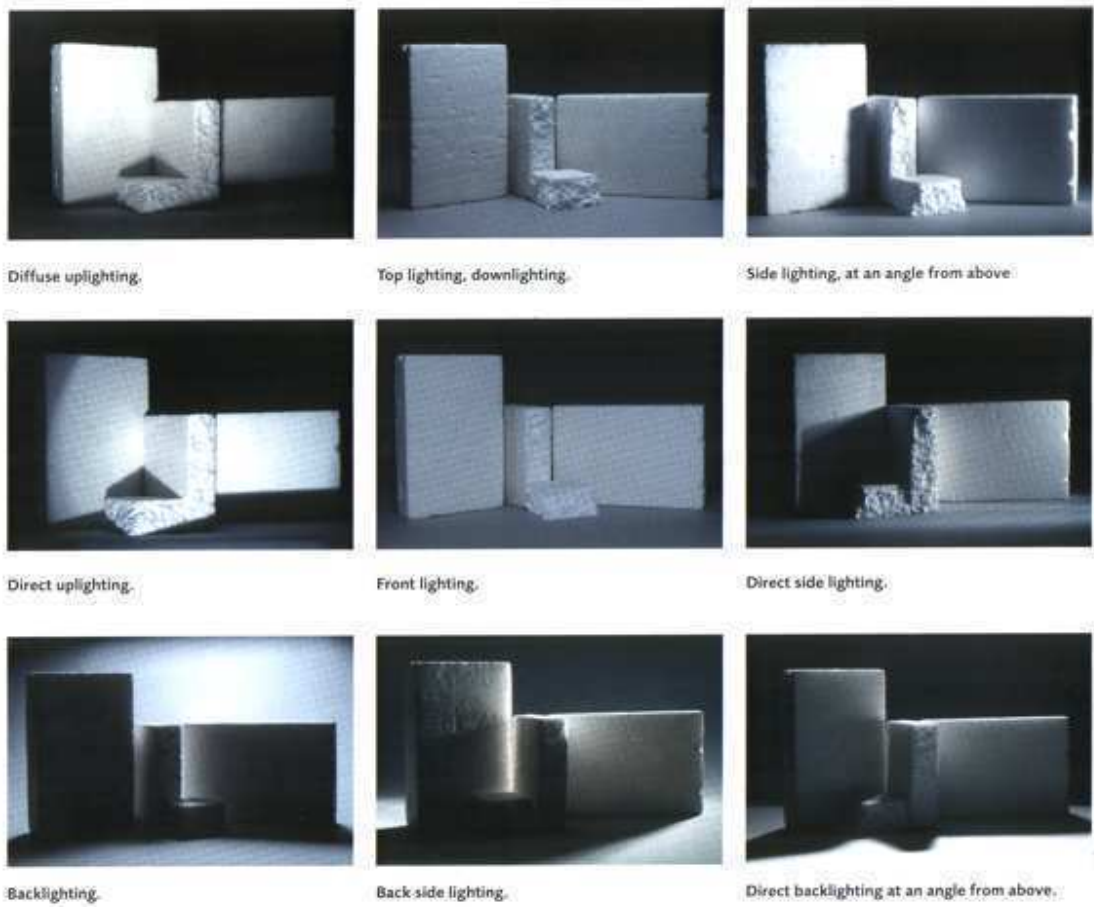


Figure 2.3: Classification of different techniques by Karolina Zielinska. Published in *Professional Lighting Design*, No.47, Jan/Feb 2006.

Emerging principles

LES OMBRES				
	PROPRES	PORTEES	COMBINAISONS*	SILHOUETTAGES
DURES NETTES				
DURES FLOUS				
DOUCES NETTES				
DOUCES FLOUS				
* Ombres cohérentes				

CHARTRE DES CONTRASTES									
NIVEAU D'ÉCLAIREMENT DE L'ENVIRONNEMENT									
	HAUT	HAUT	MOYEN	BAS	BAS	BAS	HAUT	MOYEN	
SYMBÔLE									
CONTRASTE	NEUTRE	POSITIF	NEGATIF	NEUTRE	POSITIF	NEGATIF	MULTI	DIRECT	CONTRE-JOUR
AMBIANCES	FESTIVES CONVIVIALES	X	X				X	X	X
	MAGNIFIQUES DISCRETES	X					X	X	
	ROMANTIQUES THEATRALES			X	X			X	
	POETIQUES			X		X			X

CHARTRE DES LUMINANCES									
NIVEAU D'ÉCLAIREMENT DE L'ENVIRONNEMENT									
	HAUT	MOYEN	BAS	HAUT	MOYEN	BAS			
SYMBÔLE									
LUMINANCE	HAUT	MOYEN	BAS	HAUT	MOYEN	BAS			
AMBIANCES	FESTIVES CONVIVIALES	X	X	X	X			X	
	MAGNIFIQUES DISCRETES	X		X	X	X		X	X
	ROMANTIQUES THEATRALES		X	X	X	X	X	X	X
	POETIQUES		X			X	X	X	X

Idéogrammes			Contrast Positif		Contrast Négatif	
Fond	Bâtiment	Ouverture	Moyen	Fort	Moyen	Fort

Figure 2.4: Various classifications of light effects according to (top to bottom) shadow rendering, contrast, level of light source, contrast of three variables (background, building façade and opening). Original tables from Louis Clair's *Architecture des lumières*, Fragments editions, 2003.

2.2 Position and aiming of the light source

The scenic space in its various contemporary forms is a distinct space aimed at a very special use: that of hosting performance-action and that of performance-viewing. In that sense it is a divided space. Two functions are taking place in two different segments: the one in front of the proscenium and the one behind the proscenium, with the edge of the stage floor defining the threshold. In addition, the performance-viewing part in front of the proscenium, known as the auditorium, is completely different from the other half in the sense that the users in this space have a fixed position and consequently a fixed-eye position. While they are immersed in the dark in 'their half' of the space, their eyes are fixed on the 'other half' where constant changes happen in the acting and in the lighting. In its classic form, in terms of space the architecture of the stage is very distinct and different from the architecture of the auditorium (Figure 2.5), but as theatre evolved over time, different space configurations merged or redefined this spatial relationship. However, while lighting was rapidly developing from elementary to what today can be called as 'art', the scenic space remained clearly divided. In that sense, the stage is a space of two-and-a-half dimensions as the users, the actors, can move around it in various directions on the vertical but only in an 180° angle. The stage edge is essentially a threshold not to be crossed by either actors or spectators, who can be positioned all over the auditorium levels (in height) but not all through the visible depth of the space. Even in modern theatres where the actors engage more with the audience and move around the auditorium, the division – as far as lighting is concerned – remains. The light fittings are strictly mounted in positions that will not cause glare for the spectators and their light emitting surfaces will be invisible to them, thus preserving the general spirit of the magic of theatre.

Comparing on a technical level, the two spaces, the theatrical and the generic architectural, in the light of these movement restrictions and visibility, the conventional theatrical space is a space of two-and-a-half dimensions in contrast to the three-dimensional architectural space (Figure 2.5). This often results in design awkwardness when trying to apply lighting techniques originating from the stage to architecture. The issues of glare and the free movement of users limit the potential positioning of light sources. Additionally, while the 'pitch-black theatre box' works as an 'empty canvas' for stage designers, this is hardly the case for night-time architectural space. In the architectural space, light sources can be positioned anywhere in the three-dimensional space and the users can stroll around it. Although in reality most of the spaces will have

only specific routes that people take, the abstract architectural space has no limits as to where the eye of the user might be, with implications for light planning to be glare-free, for example. The architectural space in its generic form is a space where the eye level is not fixed because the movement of users is not fixed. Theoretically, users can move all around a house; for example, grow up in it and grow tall in it, lie down or stand up etc. This means that there is no 'glare-free' corner to place the light sources because the users can move in all directions and face the sources at all times. Practically the routes one will take in one's house will follow a routine after a while; however, the generic architectural space can be considered one of free movement.

The scenic space with its totally light-absorbing black lining, its transformability, and its sophisticated mechanisms is an idiosyncratic one and any parallels with the architectural space will cause more than one functional problem. However, it is because of those particularities that lighting evolved so much in theatre, more than in architectural spaces, during the first two decades of the 20th century. The black canvas of the stage, the lack of concern for the actors' comfort against glare and the need for constant changes of moods in lighting in a limited space led to lighting being used by restless designers in various experimentations which were then adopted as principles and eventually were carried over to architectural lighting.

Weather conditions initially led the theatre into internal sheltered rooms where the show could take place regardless of the rain or the time of day. But this in turn created the problem of lighting a theatrical play sufficiently (McCandless 1931). The substitution of modern gas for candles – after many remarkable theatrical buildings had burned down – and the introduction of incandescent light sources shifted the problem of lighting from 'quantity' to 'quality'. By the beginning of the 20th century the lights were aiming at the painted background – the scenery – and the actors and consequently light quality was linked to visibility. A row of floor-sunk lights known as cyclorama lights or borderlights provided visibility for the background painting, while the footlights at the edge of the stage front and the winglights from the wings aimed at the actors. So there were more or less three different mounting positions inside the theatrical space. Then came the debut of the theatre visionary Adolphe Appia and his new ideas on theatre, which stirred up the established situation. Appia, among other ideas, revolted against the two-dimensional scenery and called for the unification of the three basic scenic elements, actors, stage and lighting, into a more realistic whole (Figure 2.6). He stated that actors stood as living three-dimensional elements against a soulless two-dimensional painted background, which prevented the magic of the theatre from being transmitted (Beacham 1993;

Bogush 1972). In a series of arguments he fought against pictorial realism and towards what was later called the 'Modern Theatre'.

His ideas were implemented in the stage design of several plays and were enthusiastically adopted, but his input soon generated new concepts and new challenges for stage design. With the introduction of three-dimensional elements to the stage the lighting designer was now facing the problem of lighting objects and not a flat painted background. Moreover he had to create mood instead of throwing white light against a surface while fighting for modelling and against unwanted shadows. This was wonderfully expressed by Robert Edmund Jones as: 'lighting a scene consists not only in throwing light upon objects but in throwing light upon a subject'. (R. E. Jones cited in Palmer 1967)

The second problem – that of creating mood – provided the impetus for reflecting on lighting styles and it was directly influenced by art movements; in other words, bringing intellectual analyses with regards to light from other art disciplines to the theatre. Newly self-styled lighting designers considered Impressionism, Surrealism and Expressionism in painting and other media while recreating 'mood' in light scenes and therefore took the next step in stage lighting away from conventional realism. The aim was no longer to tell a story convincingly but to cause emotion by instinctively linking light effects to the relevant scenes of the play. And it had to be done instinctively because there was not a clear justification for linking light effects to the corresponding scenes. For example, surrealistic stage lighting, aimed at the subconscious world and therefore aimed at eliciting the emotional reaction of the audience to a specific scene rather than providing light in a convincing informative way. As Palmer notes, the task was not to find a lighting effect for sunset but to find the lighting quality of fear or happiness; the emotional statement which could be independent from the external reality (Palmer 1967). As is obvious, the advances in technology that followed liberated completely the composition of light effects on stage and opened up the designers to a plethora of styles.

However, another problem introduced anew with the coming of realistic three-dimensional scenery, and which remains relevant to the architectural space, was that of needing light sources in multiple positions in order to eliminate unnecessary shadows. The basic three positions of light sets in the pictorial realist theatre (borderlights, footlights and winglights) were no longer adequate. Pioneering lighting designers now started experimenting with various other positions to hang the light from and therefore started considering aim, composition and control. It is alleged that in the seminal decades of the 1910s and 1920s, Norman Bel Geddes, driven by the same concerns as

Appia for plasticity and modelling, began using lensed spotlights hanged from the balcony front and from the chandelier (the main lighting source in the auditorium space) or 'beam position' (Bogush 1972). The true paternity of some of those ideas about new positions of lanterns in the rising Modern Theatre is still in doubt in the relevant literature, but the overall debate raises the fact of designers' experimentation around this unique problem: what is the optimal position for light sources in order to achieve as close an approximation as possible to natural illumination? The fact that the stage is actually a space within a space helped the positioning of light sources above and under it, something that is not possible in real architectural space. This aided experimentation and the drawing of some very important conclusions. It was as if someone placed the scenic space into a test tube and played with the different possibilities. The idiosyncratic space of theatre contributed largely to the evolution and richness of light effects produced as a result of varying the position and aiming of the sources. This evolution could not have happened in the architectural space where certain limitations exist. They were easily transferred to architectural space later though and are still in use today. Position and aiming of the light source are often denoted when describing lighting effects in architecture: uplight or downlight denote the mounting on the ceiling or floor and imply the quality of light effects to be achieved correspondingly.

Stanley McCandless is probably not the only pioneer of stage lighting who was involved in those experimentations. But his published work, which consists mainly of two books, (McCandless 1931; McCandless 1932) (Figure 2.7, 2.8) remains a powerful testimony to his quests and his conclusions, which is often mentioned as 'the McCandless method' (McCandless 1931; McCandless 1932; Lampert-Greaux 2007; Essig 2007). In the description of his method McCandless proposes lighting the subject diagonally at 45° angles in plan and elevation, from above and from the sides, with variations in intensity and colour that should act complementarily (one warm and one cool tone) to better imitate the natural effect. He holds that this kind of lighting of 3D objects and actors is as close to sunlight as possible and that is the reason why it is often demonstrated in Renaissance paintings and in architectural drawings. McCandless's method aims at natural representation but in his book he also presents the usefulness of less naturalistic light effects and their role as complementary components. For example, light coming from the edge of the proscenium, often described as footlight, is a traditional lighting technique from the time when electric light was not available. McCandless points out the unnatural result of lighting actors mainly from this direction, something which is lyrically depicted in the following Degas paintings (Figure 2.9). Instead he proposes the use of lighting from this direction as complementary or 'fill-in' light, to soften the shadows created by overhead lights and thus imitate the light reflected by the ground or floors

when they are lit by incidental sunlight. However, it has to be noted here that McCandless was aiming for pure realism in stage lighting and therefore the 45° angled overhead light seemed the right choice to simulate sunlight. When stage lighting started experimenting with different styles other than realism though, the unnatural look of footlights as a major illuminating source could serve the creation of effects related, for example, to Surrealism or Expressionism. The McCandless method became very popular in the stage lighting world, but its value in the architectural one is that it illustrates and proves the importance of the position and aiming of the light sources in space. The appearance of different light effects as a consequence of different arrangements separated the effects and their properties into a form of typology in order to recompose them anew into lighting schemes, depending on the needs of the play each time.

The account of the *Social history of domestic lighting* (Dillon 2002) provides illustrations of various historical interiors which demonstrate, among other things, the problem of positioning light sources from a practical point of view, this time in an architectural environment, proving that the position of light sources is not just the most common but also one of the oldest 'problems'. Some of the solutions provided by the available craftsmanship, such as the chandelier, have remained as cultural reverberations echoing in a whole newly organised and designed way of living; some others have become extinct owing to the prevailing lamp technology. Nevertheless, it is interesting to see in the figures below different tasks and light sources incorporated into the heavy domestic furnishing at close proximity to both the task area and the eye zone. Illuminating close to the task surface was a necessity mainly because of the lack of strong beams that would reach further in the space, and for economic reasons, of course. In Figure 2.10 the buffet lights are positioned a few centimetres over the top with the primary task of illuminating the plates, while the candelabras in Figure 2.11 are matched to the gilded mirror frame and table and illuminate the face of the figure before the mirror. Even though those examples are mostly lighting solutions incorporated in furniture and not space arrangements, the presence of special lamps attached to buffets or close to mirrors indicates that the overall ambient light was not sufficient for the tasks undertaken (regardless of social class and affluence) and had to be reinforced where it mattered. In the same publication there are also examples of overall space illumination, such as the use of chandeliers in ballrooms (Figure 2.12) and staircase lighting (2.13). The original arrangements of chandeliers were invented for functional reasons and later received some embellishments, but their contemporary use has kept only the aesthetic purpose. The contemporary chandelier no longer provides the general lighting of a prestigious room but is often introduced as a decorative element implying luxury and festivity while complementing modern light sources. The sharp crystals that served the functional cause

of dispersing light to as large an area as possible³ are limited today to a glimmer as a well-kept memory and not an absolute necessity, for different technologies can achieve that nowadays by much more discreet and minimal means.

Furniture and interior decoration may have changed a lot since the years referred to in Figures 2.10 to 2.13, but some space and light problems have remained. The best solution for lighting a staircase, for example, is a constant 'riddle' for a lighting designer because there are several parameters that have to be addressed and most of the time end up only partially dealt with. The ceiling height of a stairwell is normally twice the height of a single floor, which means that positioning the lamps on the ceiling makes changing the lamps problematic. In addition, the movement of the user's body along the steps means a constantly changing position for his/her eye zone in both the horizontal and the vertical and therefore renders the elimination of glare almost impossible. For example, in some positions the user's eye aligns completely with the wall-mounted light sources. With the necessity of face-recognition and visibility of level change, staircase lighting is more of a functional problem than anything else. In Figure 2.13 this problem has been solved with the positioning of lamps on top of the balustrade posts at various intervals, which would provide light both on people's faces and on the steps, without being too glary, but this leaves the upper walls and ceiling in relative darkness. It seems that design problems like this really revolve around the question: *where should I place the light source?* Chandeliers with adjustable height (Figure 2.12) were a solution that came as an answer to the equally problematic high ceiling of ballrooms.⁴

The examples illustrated have so far been looked at from the point of view of functionality problems, but in fact they were also solutions that considered the visual effect of light⁵ as well. The custom of hanging chandeliers closer to the ceiling than to people's faces aimed at achieving a lustrous revealing of the ceiling and upper walls to the guests, thus invoking a feeling of being in a large space, as they would experience it in daytime. It also left the faces of guests in a pleasant penumbra that evoked mystery and atmosphere. If the chandeliers were hanging just above people's heads that would effectively light their faces but leave the upper corners of the space in semi-darkness. The *position* of the sources was also a decision based on manufacturing a *specific light effect*. It is not worth examining whether function followed form or vice versa – assuming

³ Especially at times when the price and scarcity of candles rendered them a luxury, even for upper social classes.

⁴ Although heat emitted from the candles may also have contributed largely to the invention of this solution.

⁵ In this context the visual effect means the effect of light in space and not the decorative presence of the fittings.

that there is a causal relationship – or whether they have equal priority on the designer's list, each demanding to be addressed. The point made so far is the apparent *importance of the position and direction of the light source in the space*.

This has also been observed, investigated and presented at an International Commission on Illumination (CIE) conference by Dr W. Chroscicki (Chroscicki 1975). In a series of original sketches presented at the conference he studied various body positions in domestic activities and highlighted the respective eye zones (Figure 2.14). A far more acclaimed and influential study, although not directly relevant to lighting, is Le Corbusier's Modulor (Figure 2.15). Relevant to all aspects of building design, the idea of the human body's analogies is here linked to the design of objects: furniture or fittings. Whereas, the idea of space and position and aiming of the light source is not. Or is it? Returning to the lighting design industry, one sufficiently involved in it would acknowledge the wide use of terms like 'high-level' and 'low-level' lighting that are not purely conceptual but have a practical meaning for the electrician and the circuiting. Whatever circuit is fed from the ceiling is considered 'high level' and everything else below the ceiling is considered 'low level'. But this is not an absolute definition because wall lights can be described as high level and low level, depending not only on the electrical supply point but also on their relative position to the human body. Roughly speaking, all wall lights below waist level are considered low level. The same happens with the vague definition of 'uplight' or 'downlight'. The imaginary horizontal plane of around 80cm is also another point of reference, usually named 'working plane' after the expected position of an office desk. So it is considered valid to term fittings positioned below that plane as 'low level'. Given these considerations it would be fair to say that light effects are dependent on the position and aiming of the light sources in space and in relation to the human body analogies.

In *Architectural Lighting Graphics* in 1962 (Flynn and Mills 1962) Flynn has differentiated lighting effects referred to as 'lighting systems'.⁶ More specifically he classified light effects according to the aiming of beam (upwards, downwards or multi-directional) and according to the width of beam (concentrating or diffusing). So according to these criteria six types of light effect were identified, supported by graphic simplifications as seen in (Figure 2.16).

⁶ 'Lighting systems in the architectural environment' is the title of Chapter 1, which presents the 'design medium'.

In Flynn and Mills (1962) the whole presentation of a differentiation of light effects is distinguished by clarity and directness and the definitions are followed by the relevant graphic sign (as in Figure 2.16) and an image example. But, however direct the concept is, the space element is presented vaguely, with no explanation for what can be called 'threshold' in the 'up' or 'down' definition of light effects, which is graphically depicted as a thick horizontal line (Figure 2.16). Is this below or above eye level or is it something that aims for the ceiling or floor? In that sense, is an uplight recessed in the floor offering the same effect on a person, or on a surface, as a wall light mounted on the upper wall? Is it the generic architectural space that defines the threshold or is it the human body analogies? Flynn and Mills are looking at the light and space relationship only, excluding the human body analogies, but there is no link between 'light effects' and 'space', which consequently leads to the following question: what is the right effect for each space? The answer to this is not given in Flynn and Mills's book but another causal link to justify design decisions is attempted in a series of papers by Flynn and others that followed it (Flynn et al. 1973), (Flynn 1975), (Flynn and Spencer 1977), (Flynn 1977), (Flynn et al. 1979), (Flynn 1988). Those research reports tried to associate human behaviour or 'impression' with 'light effects' in experimental square rooms set up like offices, sourcing from behavioural psychology and using tools such as semantic differential scaling and multi-dimensional scaling. Flynn linked six light effects such as 'overhead diffuse lighting' with impressions such as 'pleasant or unpleasant', 'relaxed or tense', 'private or public'. He suggested that this could be a design tool that would inform the designer which light effect to use in response to the need for a specific impression. If the space needs to feel 'large' and 'bright' for example the designer should use 'uniform' and 'peripheral' lighting (Flynn et al. 1973). Lou Michel makes a particular reference to Flynn's results and the extensive effect of these studies to lighting design thinking (Michel 1995) with the example of the enhanced need for a feeling of spaciousness inside aeroplane cabins and how peripheral lighting to the cabin's walls and ceiling achieves that. However, he points out that spaciousness is not always a prerequisite in an architectural environment, and gives the example of restaurants and candle-lit tables.

Flynn together with the other researchers made simplifications in his research experiments in order to minimise the data. As classic positivist studies demand, the definition of no more than three parameters guarantees more comprehensive and more easily analysable results. Therefore the first step he took was the simplification of generic architectural space into a rectangular space with three kinds of surface: ceiling, floor and four walls. The second step he took was the prescribed visual field of the subjects/users to a limited sight angle. For example, if researching an office space the assumption is that the subject is seated and therefore the surfaces he focuses on are $\pm 0.10\text{m}$ from the

1.10m plane, or the working surface itself. Turning again to *Architectural Lighting Graphics*, in the pages following the direction and distribution of light classification, Flynn and Mills make special reference to the reflective potential of high-reflectance surfaces, or self-luminous surfaces, and how they can co-operate in the illumination of a space as a third type of light source. They also take into consideration more complicated surfaces than flat ceilings and walls and therefore reconsider the role of the surface with more tolerances allowed. However, those permissions still do not link 'space' and 'light effects' as Flynn chose to have all physical conditions unchanged during the experiments.⁷ Moreover, in Flynn's studies light seems to be understood visually as 'patterns' on 'surfaces', which diminishes light effects to merely two-dimensional entities. In that sense 'space' is understood as a 'composition of surfaces' (walls, ceilings and floors) which acts as a drawing board for light painting (Figure 2.17). Seen from the perspective of itemised surfaces and itemised light effects, the benefits of the holistic view of architecture as the 'space within' and as the 'volume enfolded' are lost.

It might appear at first that a differentiation between the light qualities offered by different light systems does not necessarily need to include the notion of architectural space – light effects are self-sufficient notions as defined in Chapter 1 – but further consideration on approaches that aim at informing lighting design in space, the two criteria of direction and width of beam only address the problems of disciplines such as industrial design and light manufacturing. Flynn's papers were so influential that lighting research still refers to them (Protzman and Houser 2005) and they have continued to keep research interest in linking lighting design with what is generically called the 'mood' of the user, strangely excluding the fact that light is primarily lighting spaces which people perceive accordingly and therefore have their mood affected.

To challenge this approach, in a more recent study Kato and Sekiguchi (Kato and Sekiguchi 2005) confront former research experiments into perceived brightness with the experience of a three-dimensional space instead, where the user is immersed in the space and has the opportunity to inspect it, thus criticising studies that hypothesise the user's eyes fixed in a single direction, fixed position, or limited visual field (1, 2, 3 in Figure 2.18). They propose the case where the subject looks around in a 3D space (4 in Figure 2.18) and '*judge by memory obtained by looking around*' and conclude that the impression of brightness is dependent on both the quantity of light and the directional

⁷ 'This room has several important advantages: it has a number of lighting arrangements that permit significant variation in the visual character of the space without changing any of the other physical conditions' (Flynn et al. 1973).

diffusivity, the latter being a physical quantity that incorporates the parameter of variable distribution of lights in the space. Their experimental space however remains a cubic room of 2mx2mx2m. Flynn's approach is very constructive when it sticks to the typology of the lighting effects. It loses its strength though when he tries to apply the abstract sense of illuminated surface to a very simplistic and restricting type of architectural space: that of a rectangular room. Studies based on the Flynn paths tend to have a fresh approach on the issues of the visual field and how space is appreciated visually by the users. As a third input originating from the lighting literature, this work confirms the gravity of direction and geometry of the light source for classifying the lighting effects, but it also confirms that light disconnected from architecture and its potential on form/shape development is a rather stiff tool for design use.

Millet points out that the positioning of windows in architecture can accentuate details and play a fundamental role in the appearance of an interior space in daylight rendering, illustrating this with an example of the clear effect of 'sidelighting' an altar wall and hung cross by means of a floor-to-ceiling window placed on the left side of the wall (Figure 2.19). Following this line, she goes on to state that electric light is even more flexible in that role since 'they [artificial light sources] are not restricted to locations in the enclosing building form. The geometric relationship between the source and the object, however, and the distribution of light to emphasize the form, follow the same principles' (Millet 1996). Millet supports the argument that the positioning of a light source (natural or artificial) can create a specific effect on the enclosing space and therefore the creation of a series of light effects is dependent on it. It acts as an underlying principle of design which designers consciously or unconsciously employ to achieve the desired effects. In the illustrated example the decision is of course conscious since the ceiling-high clear glazing has no view out for the users. The only reason for it being there is for illumination. The freedom of position for electric light sources as suggested by Millet can easily turn into abuse, and this is why when the light effect is tied in with the architectural semantics of a space (not necessarily by imitating daylight) it gains more value. So the position and aiming of light sources, for the creation of effects, can also gain a semantic role as well as solving functional problems creatively.

Apart from being used in light effect classifications by McCandless and Flynn, the idea that the position and aiming of light sources in space is a critical parameter for forming light effects – bearing a close resemblance to a design principle – is further illustrated here within specific space examples, functional problems and cultural contexts. It is a fundamental design consideration which most lighting designers and lighting engineers consider self-evident, mostly derived from experience and quantitative or ergonomics

concerns. What is not self-evident, however, is how the position and aiming affect the qualitative part which ranges from light distribution and the rendering of objects to cultural semantics, and the total value this topic gains when examined in relation to a given architecture. It is proposed here that for lighting design it counts as a design principle and not just as a mere technique and this will be further reinforced in the empirical part of the thesis in which designers will be demonstrated using this principle to serve their concepts over the drawing board.

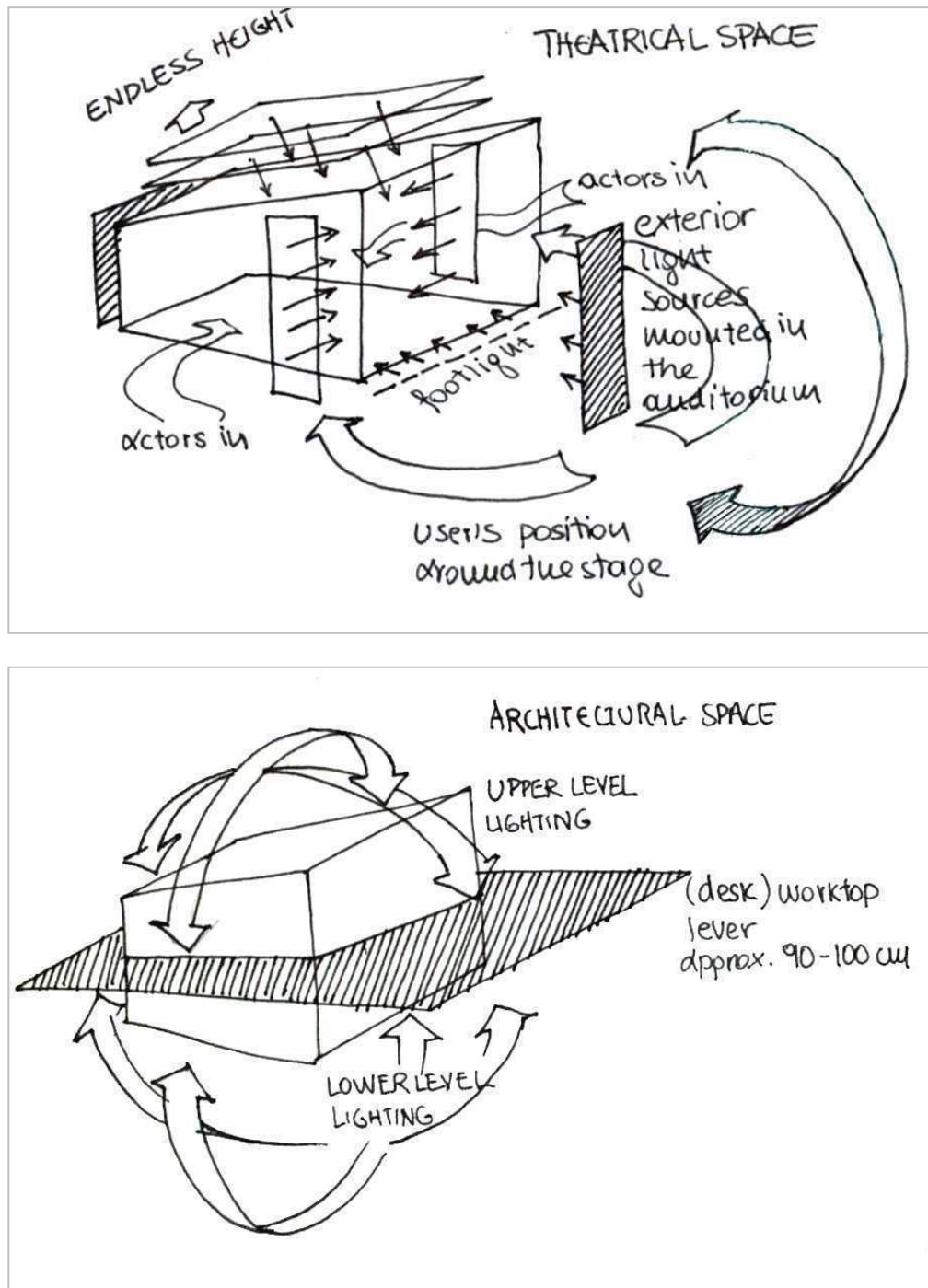


Figure 2.5: Comparison of the scenic to the architectural space. In the former the movement is restricted and the view set from a fixed position. Glare is not considered for the actors who are temporarily occupying the space. All light sources are aimed at the scenic space originating from within or outside it. The architectural space is a full three-dimensional one as the sources and people can theoretically exist anywhere in it. The only division that exists is an invisible plane of 90cm to 100cm: the working plane or horizontal surface where tasks take place; but this also depends on the furnishing of the space. Source: hand-drawn sketches by author.

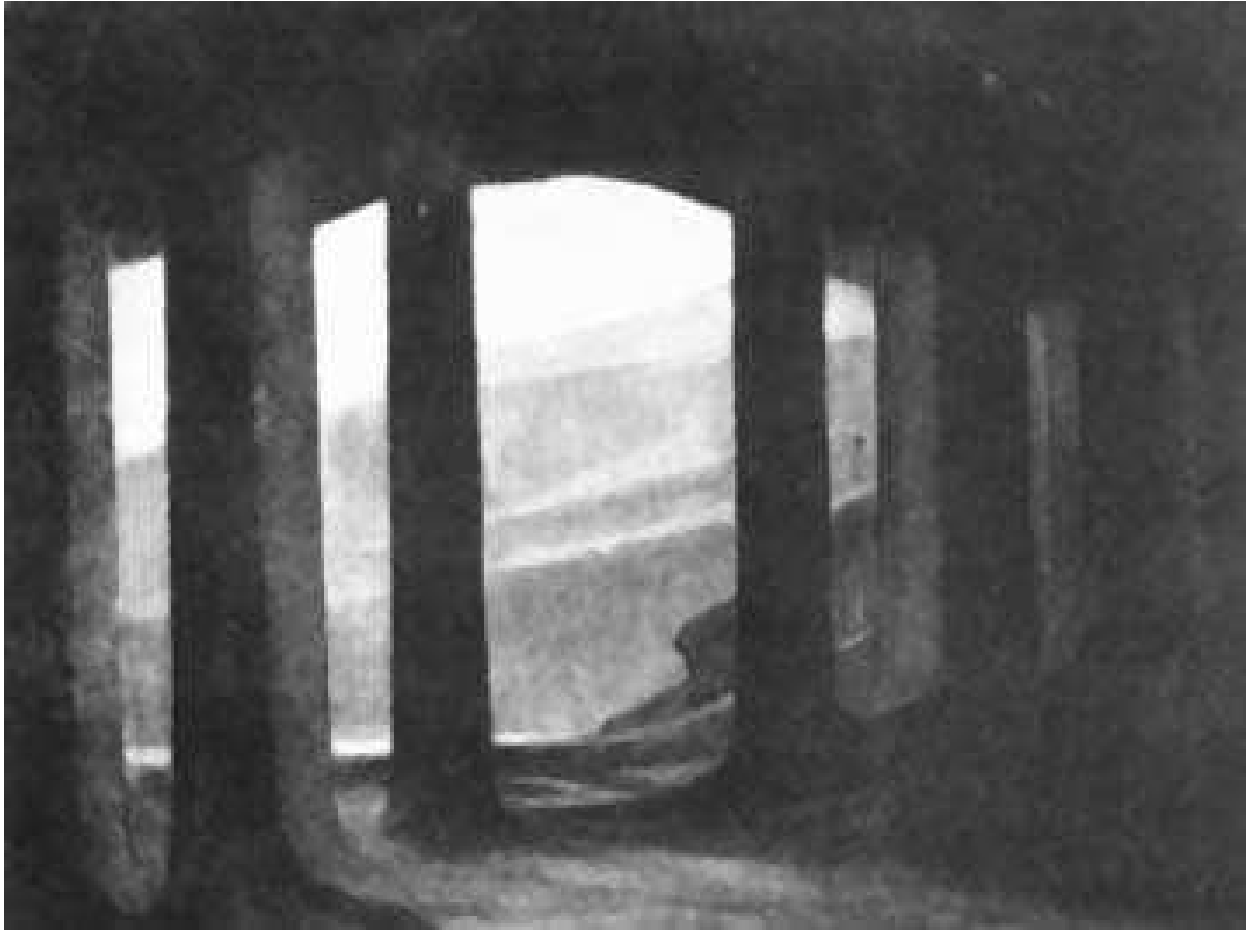


Figure 2.6: Adolphe Appia's stage scenery for *Parsifal* (scene 1). The move from two-dimensional pictorial representations to the realism of Modern Theatre is illustrated here by its lighting. The actor is immersed in the woods with the foreground enveloped in darkness to communicate the experience, while the background seems lit.

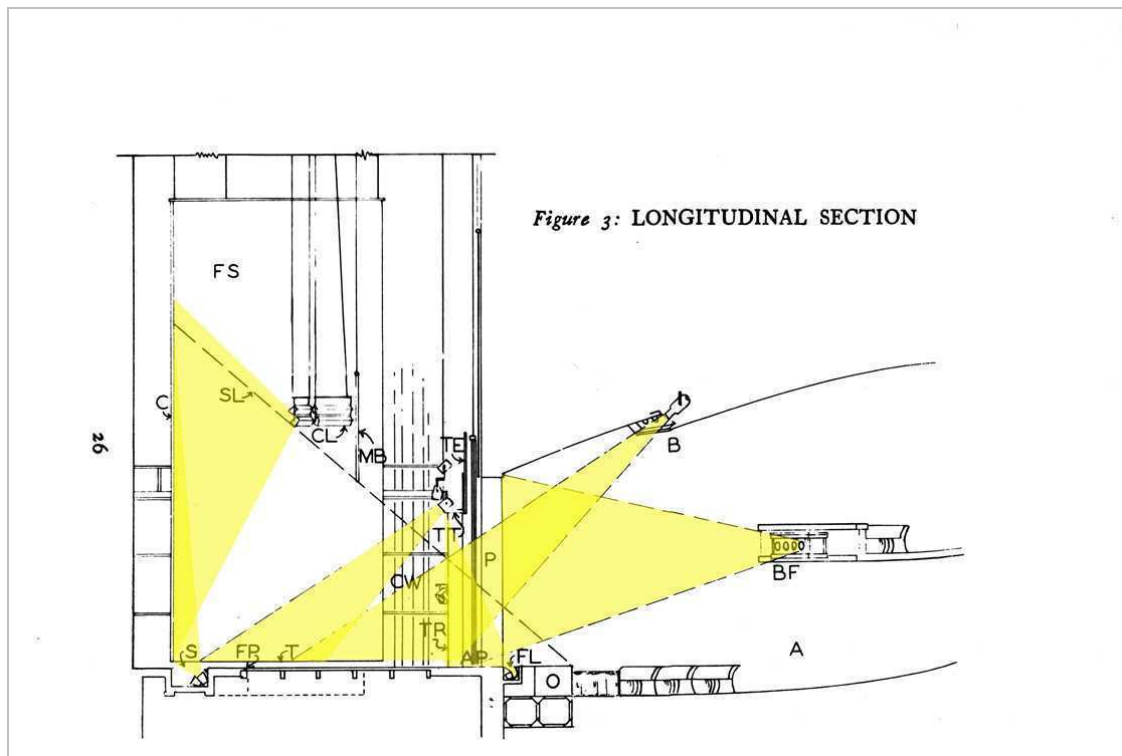


Figure 2.7: Original illustration from McCandless's *A Method of Lighting the Stage* (1932). The six positions of light fittings lighting the scenic space in section of a generic theatre arrangement. The winglights are omitted owing to representation restrictions. Except for the balcony front lights (BF), which are aimed solely at the curtain, the rest are destined to light the three-dimensional scenery, actors and background in the most realistic way possible. With different combinations and intensities McCandless experimented and identified nine different effects (Figure 2.10) and their degree of naturalism.

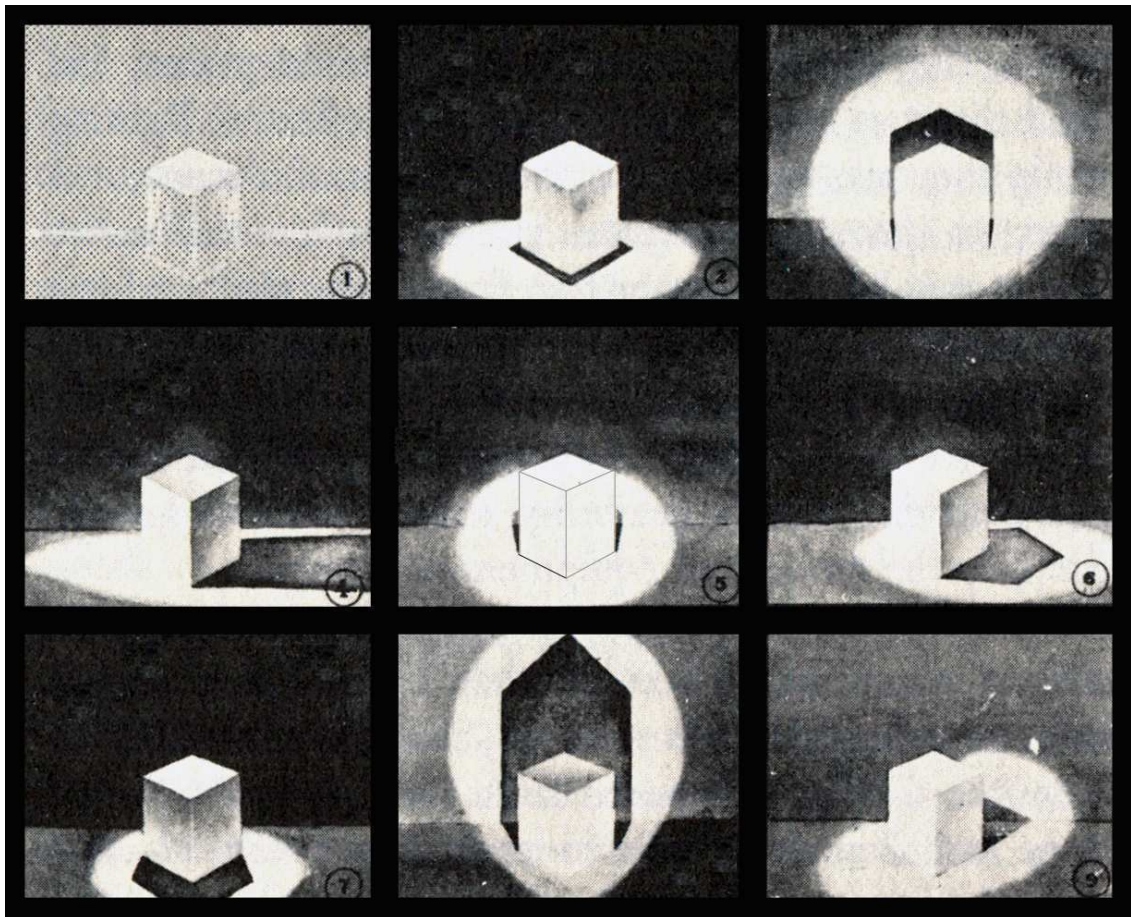


Figure 2.8: Illustration and text from the original *Method of Lighting the Stage*. McCandless experiments with lighting from different directions and the effects achieved by each of them:

1. *General distribution, light coming from all directions, thus practically eliminating the form of the cube.*
2. *Direct down light such as might be given by a lens hood mounted directly above the acting area. Very little illumination on the vertical faces.*
3. *Centre frontal light, as from the front of the balcony, showing the position in which a shadow falls on the back wall, directly behind the cube.*
4. *Side lighting, as from the tormentor [vertical upstage curtain] showing the long shadow, only fair top lighting, and giving a sharp contrast between the two vertical faces of the cube.*
5. *Centre front at a 45°, showing good top lighting and illumination to the two faces of the cube and a less distracting shadow than in diagram 3.*
6. *Side lighting at 45°, showing good top lighting and illumination to one of the vertical faces, and a reasonable position for the shadow.*
7. *Back lighting. Showing good top lighting and separation from the background by reason of contrast and therefore used considerably in motion picture work, but giving poor illumination to the two vertical faces.*
8. *Front lighting from below as from a footlight spot, showing the exaggerate effect of the shadow, no light on top, and equal illumination of the two vertical faces.*
9. *Diagonal lighting, giving a desirable balance of highlight and shadow. This is the convention used by architects in rendering their drawings.*



Figure 2.9: Edgar Degas in 1878 created a series of paintings with themes from the theatre world of his time. Here, the footlights – a necessary lighting position at the time – in the proscenium edge create the unnatural effect so successfully depicted by the artist by creating ghostly shadows on the faces and throwing light on the legs and torsos of the actors rather than on their faces. It was these effects that McCandless states as unnatural and which he tried to eliminate with stronger light from the top and side (the McCandless Method) while diminishing the footlights' role from major lighting direction to simply 'filling in' the shadows created by overhead lighting in the whole light composition. *Répétition d'un ballet sur la scène*, 1874, Oil on Canvas. Source: Musée d'Orsay (www.musee-orsay.fr). *Café Concert Signer*, 1878. Pastel on Canvas. (bottom). Source : Fogg Art Museum Cambridge, MA (www.harvardartmuseum.org)

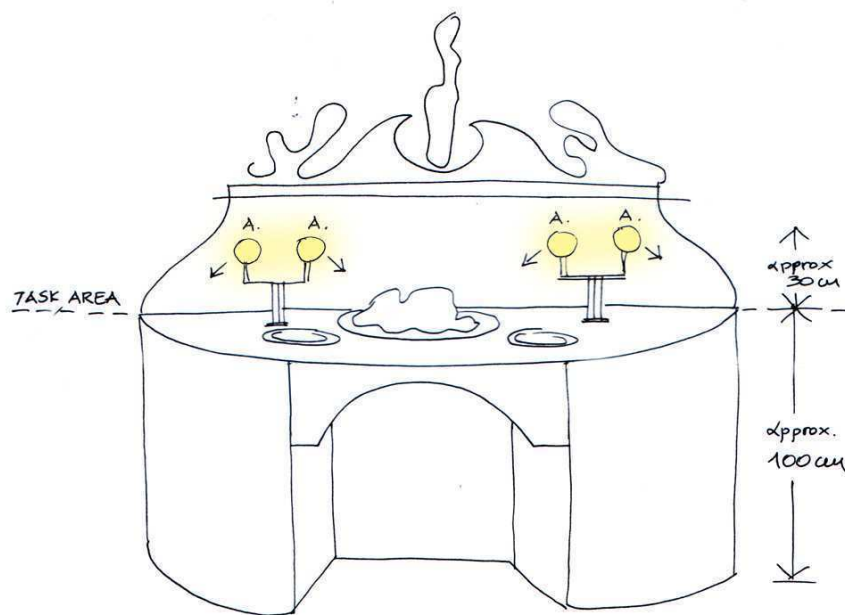
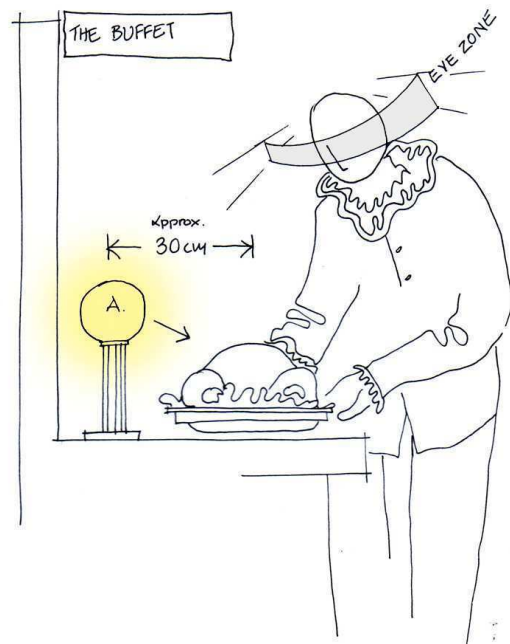
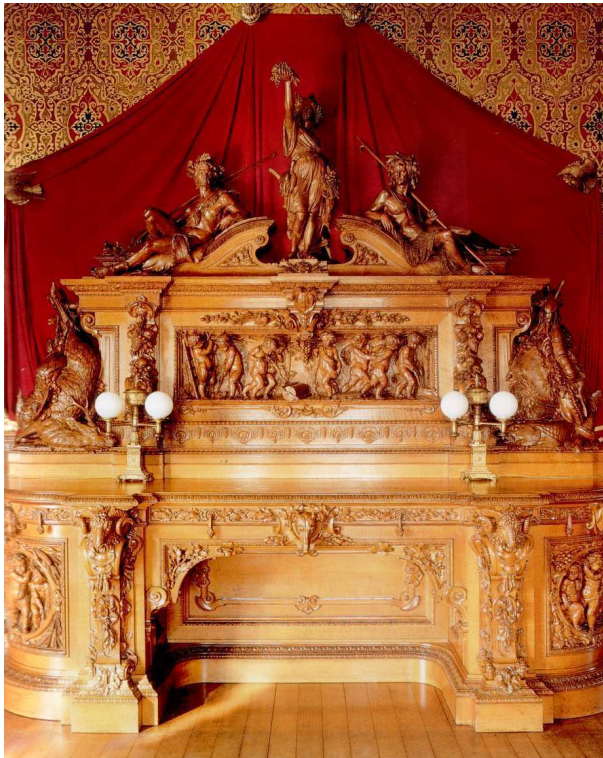


Figure 2.10: Source: Dillon M. *A social history of domestic lighting*. Classical positioning of light source as close to the task as possible. In this case a buffet.

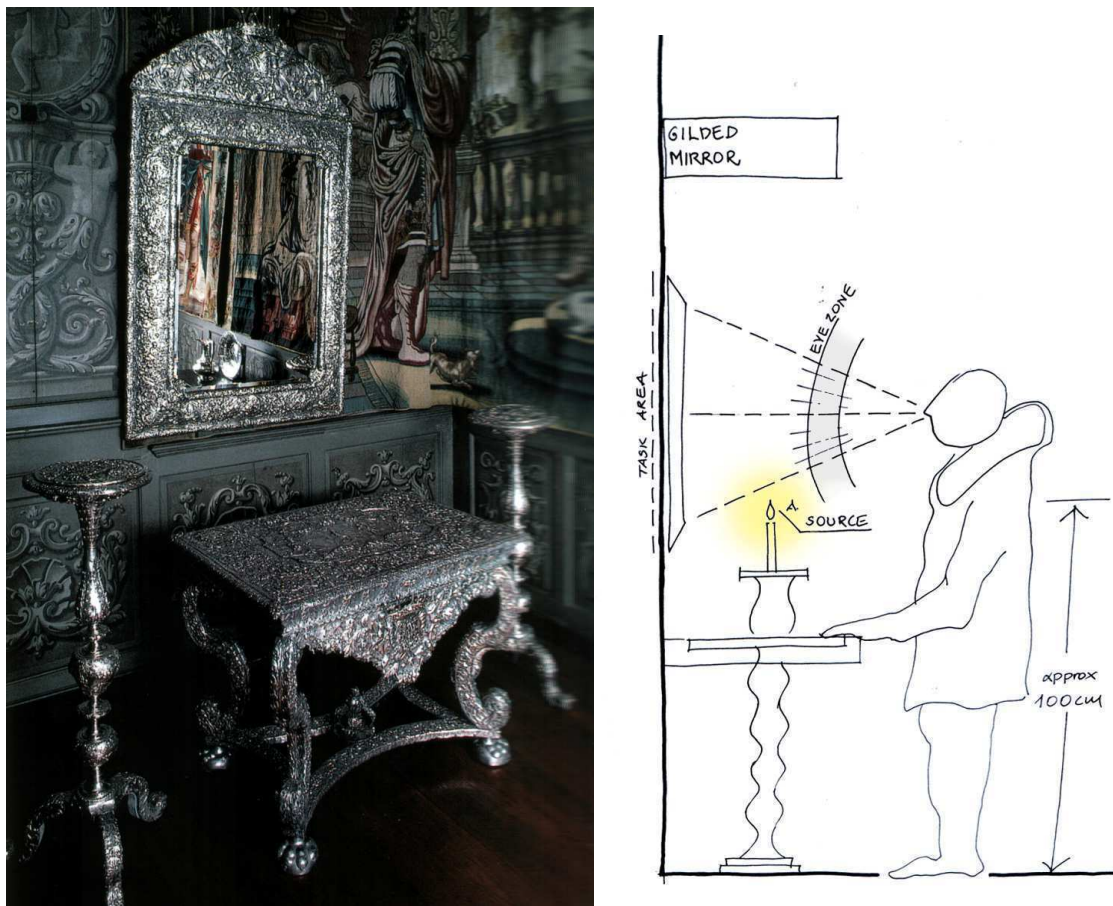


Figure 2.11: Source: Dillon M. *A social history of domestic lighting*. Mirror lighting. Effective lighting from two side light sources to achieve a balance of shadows. The silver gilding is not just for aesthetics or luxury; it is working also as tiny reflectors of the candles' beams.

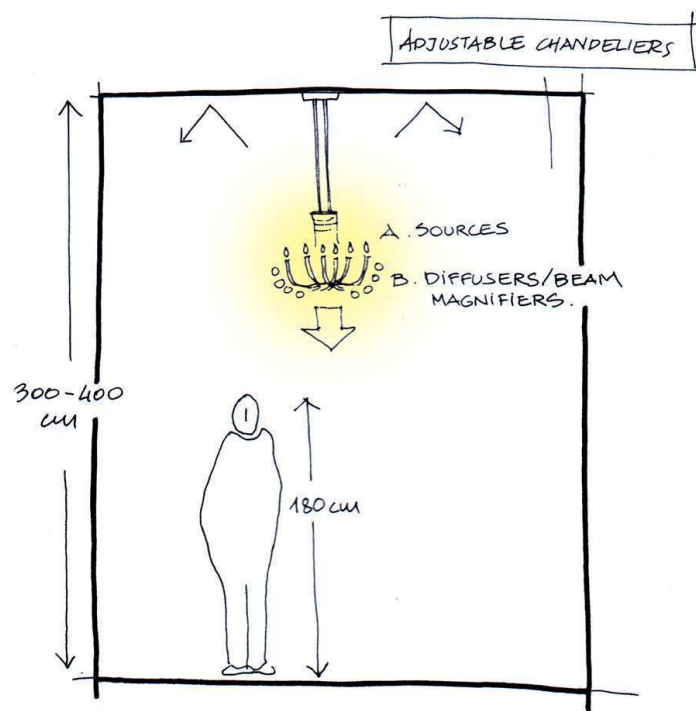


Figure 2.12: Source: Dillon, M. *A social history of domestic lighting*. Adjustable chandeliers ensure both efficient illumination of the ceiling and easy maintenance.

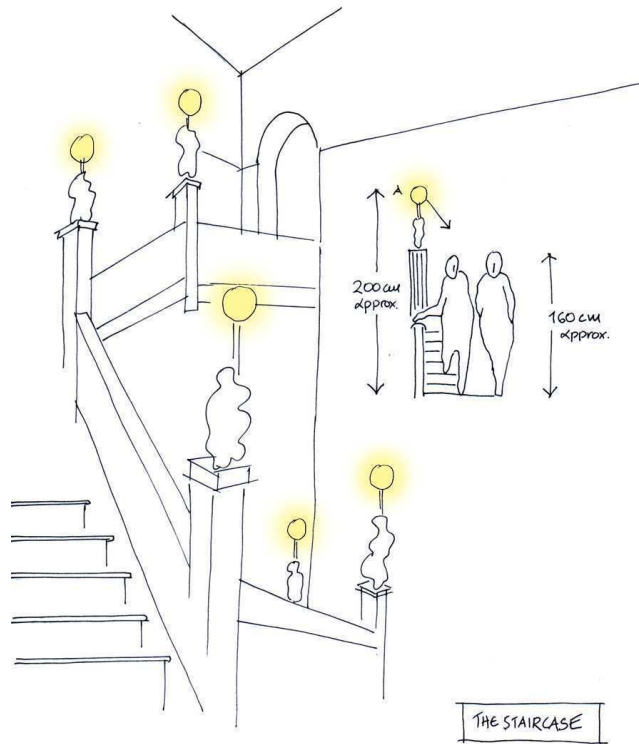


Figure 2.13: Source: Dillon M. *A social history of domestic lighting*. A solution to the classic problem of lighting a staircase. Lamps positioned on top of posts provide adequate light to both the steps and users within proportion of space.

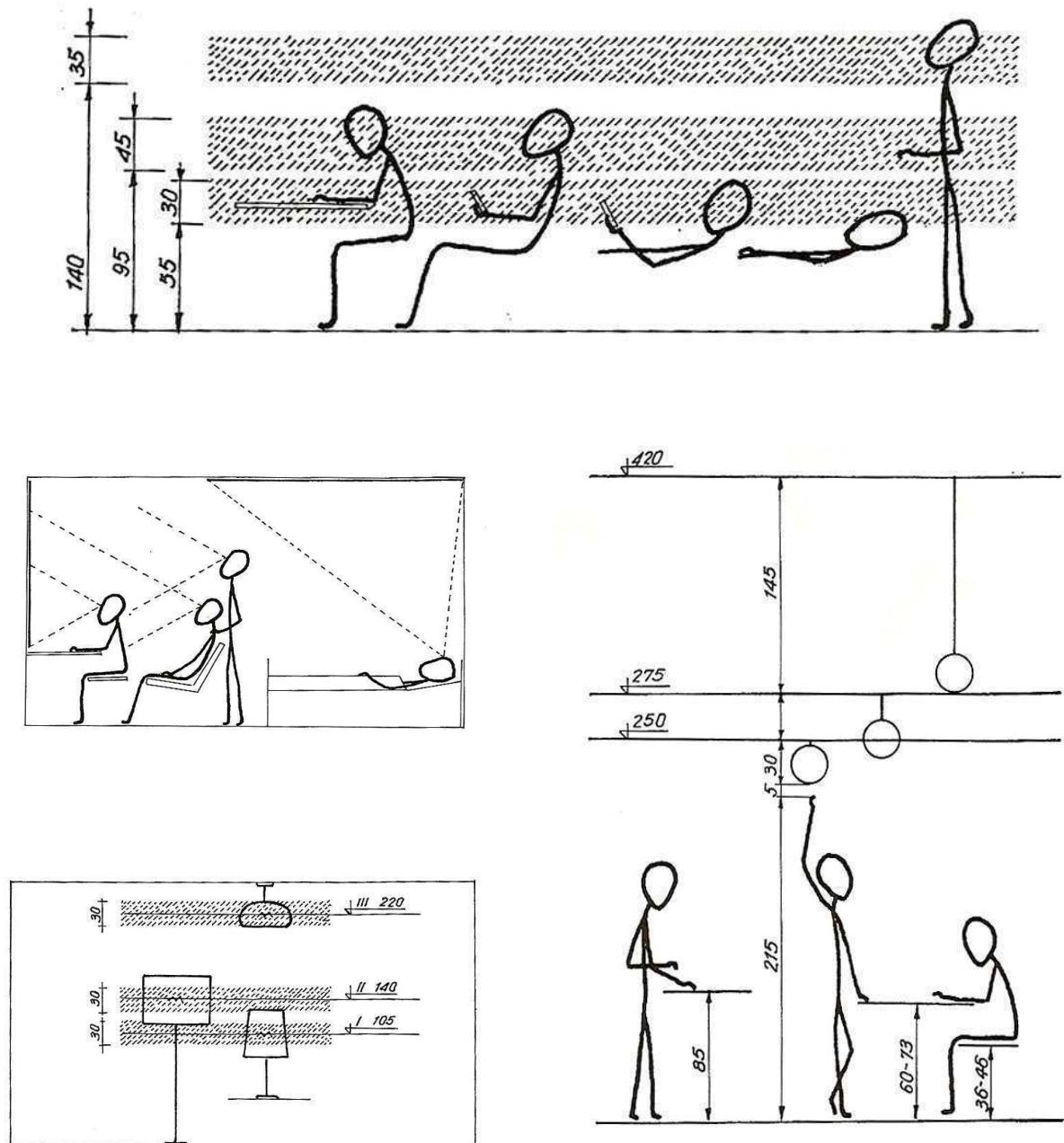


Figure 2.14: Chroscicki's Modulator of home lighting. From standing position to lying on the bed, the eye-level height is hatched to identify the various zones. Illustration from the original paper of CIE Conference Proceedings.

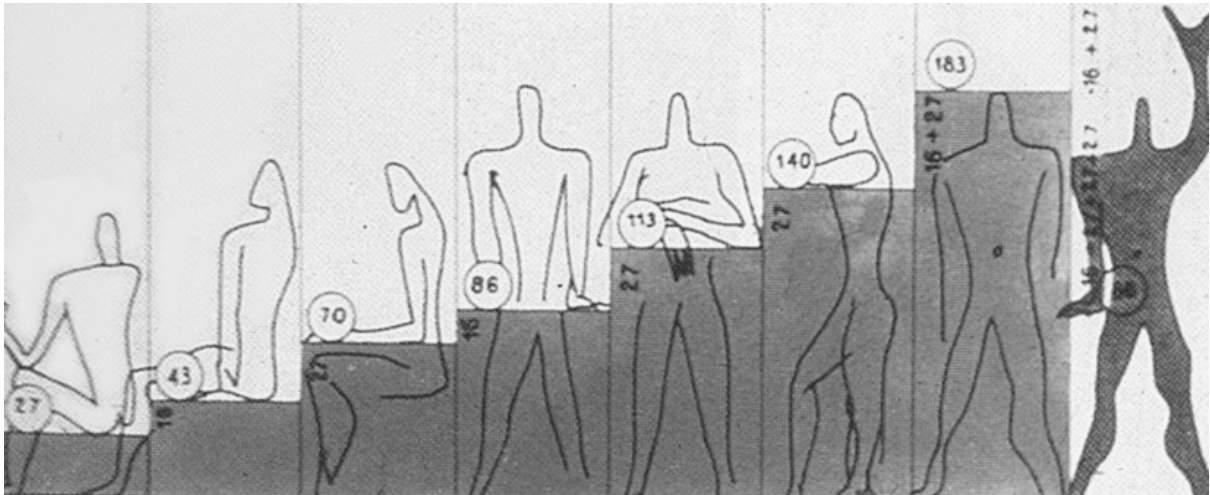


Figure 2.15: Le Corbusier's Modulor studies design in the context of human body analogies.

Source: Illustration from: *Le Corbusier : architect of a new age* (Jenger and Beamish 1996)

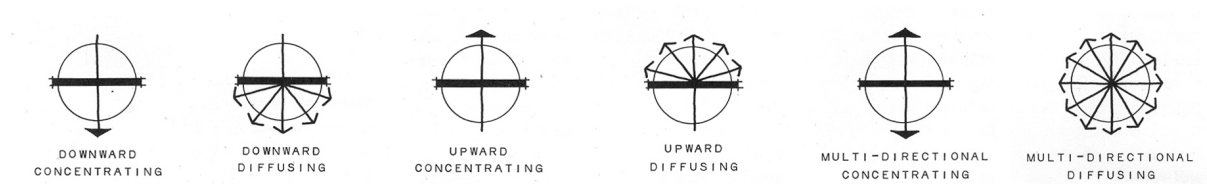


Figure 2.16: Schematic representation of the light effects by Flynn & Mills. Original Illustration from *Architectural Lighting Graphics*. (1962).

Emerging principles

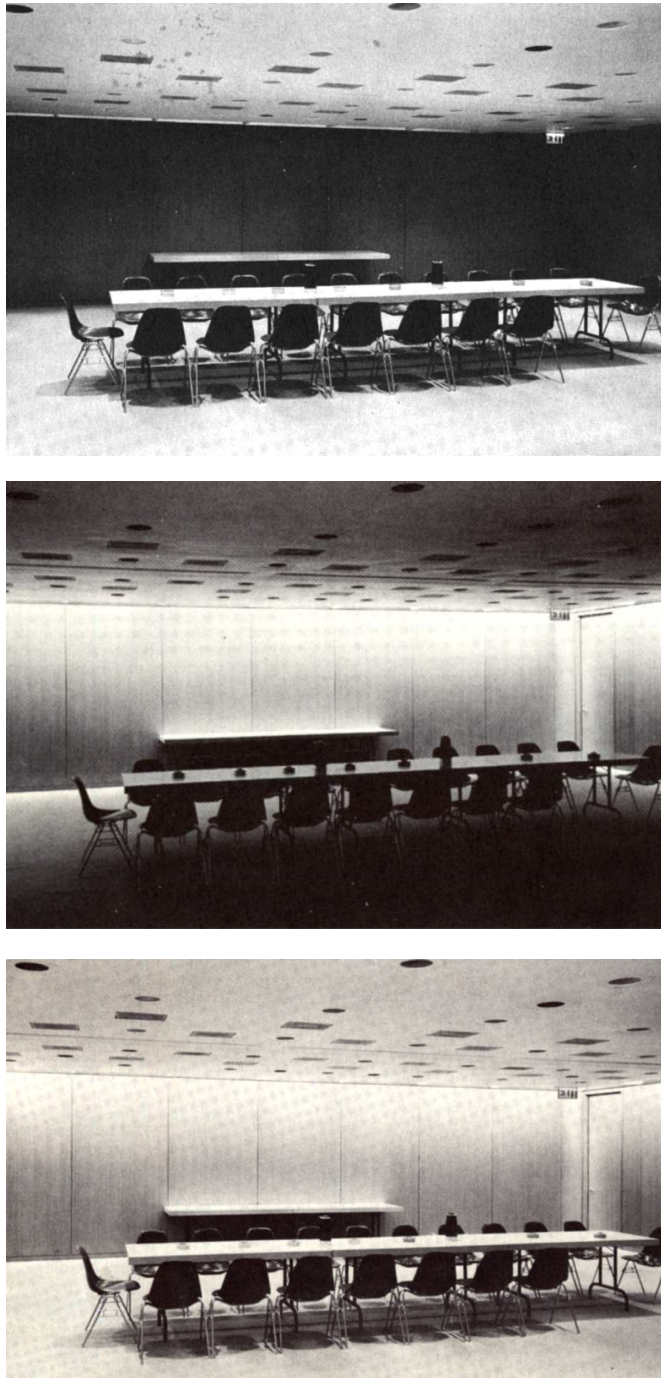


Figure 2.17: Flynn's experiments in room lit appearance record when overhead (1), peripheral (2) and combined (3) light effects are used. Picture from original publication (*Architectural lighting graphics*).

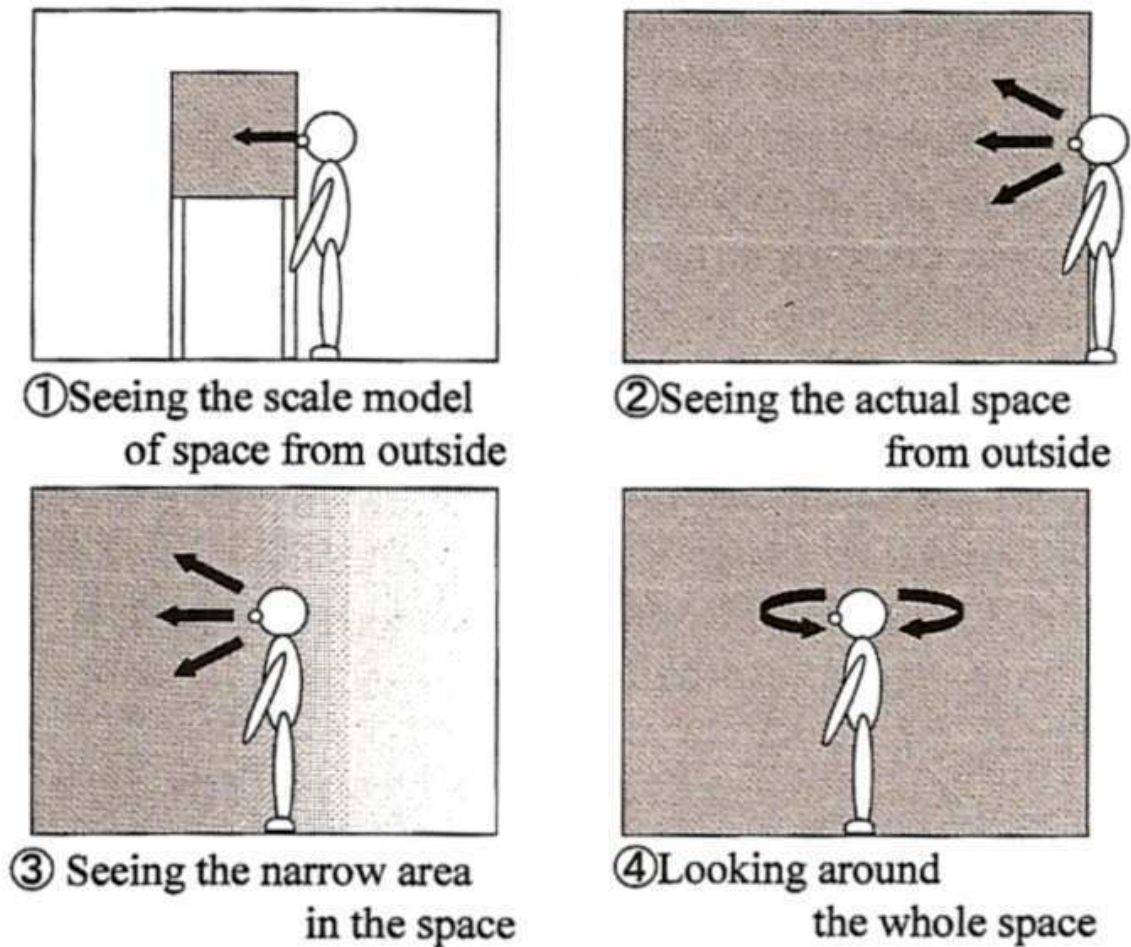


Figure 2.18: (Kato and Sekiguchi, 2005). Schematic representation of perceptions of a lit space according to a different degree of immersion in the space (1 to 4) as hypothesised by various researchers. The authors criticised the former experimental restrictions of position, seating and visual angle of the subjects and offered the free movement and holistic impression of the space consideration as a more realistic one.



Figure 2.19: Millet's example of the side lighting of the altar in Christ Lutheran Church in Minneapolis, Minnesota. Original illustration from *Light Revealing Architecture*. Bottom view of the opening shows a thin silhouette of the row of lights fixed in the cove to replicate the effect of side lighting at night.

2.3 Geometry of lighting distribution

Laszlo Moholy-Nagy, an admirer and follower of technology in the Bauhaus School, was particularly fascinated by light, which he considered a 'new material', and made several artistic projects and student workshops exploring form and light relationships. The following extract explains:

In his basic design course he devised several problems for showing how sculpture in the round could be transformed by alterations of its lighting. In the New Bauhaus in Chicago this emphasis on form through light became the impetus for 'Light Modulator' problems. Students were taught not only to see form, but form as it could be created by beams of light and the resulting shadows. (J. W. Burnham 'On Moholy's Light-Display Machine' (cited in: Kostelanetz 1970)).

Two of his experiments are resourced from relevant literature and presented here. In Figure 2.20 and Figure 2.21, photos from the light space modulator experiments are shown. The first is a simple look at how folding paper form is altered under constant light in one of Moholy-Nagy's workshops with students. In the captions that accompany the pictures Moholy-Nagy describes the various effects of light falling on a plane (flat paper), a curved surface (folded paper) or an edge (object in front of light source) and draws attention to the various levels of gradation in each case. One would expect that in dealing with light as a new medium, the artist would choose to play with various light sources, position them at different distances or alter their beam somehow. However, Moholy altered the *form qualities* made with this simple piece of paper and the different effects a light source produced by falling on them. This is one of the first examples where space (micro space in this case enfolded within the paper but one can notionally replace it with architectural space) is altered to accommodate light and not the opposite; unless of course we are talking about sculpture in the classical sense. But even then the variant from classical sculpture is artificial light produced at close distances offering strong shadows and contrasts and not static daylight. This reverse logic, which considers lights as a *material* and not as a *phenomenon*, presupposes that the artist is empowered to employ light in creative ways, in the same way as he does with clay, while in the second and most common conception, light is something to be observed, calculated and predicted at best – not manipulated. In Moholy-Nagy's experimentations sculpture is the synergy of form and artificial light, worked out to specific visual results.

The 'Light Modulator' with paper has evolved in Moholy-Nagy's series of projects into a machine with different surfaces, a kinetic sculpture that examined the light effects falling on the enclosing walls of the room that hosted the sculpture while illuminated by static sources embedded in the base of the sculpture. It is basically the same logic: surfaces changing position and form whether rotating in the kinetic sculpture (Figure 2.21) or changing shape in the paper models (Figure 2.20). This reverse logic by Moholy-Nagy brings this out: whether it is the surface or the source that changes and causes different visual effects, the conclusion remains the same: they both contribute to achieving various light effects in an equal way. Real-world conventions – such as the cost of altering the structural envelope – allow the light sources to be designed around the surfaces and not the other way round, but the reversing of the logic causes forward thinking.

The relationship of surface and source has been characterised as 'structural' by Lynes who has put this into a more formal paper (Lynes 1966), an important work I will expand on later, but the geometry and form of the 'receiver' or 'accommodator', the surface in other words, is an important parameter for the light effect designed. There are a certain number of light effects that are characterised by the shape of the light patterns they produce on surfaces, which has often resulted in naming those effects after the pattern: pool of light (on a floor) or scallop (on a wall) or linear light or spot light etc. In fact the light pattern is quasi-accidental and is the result of a surface meeting a non-material light blob, visualising only a slice of it. The rest of the light blob, which is in fact the light distribution of the source, remains unnoticed because, as is well-known, only when light hits a surface does it become visible. Even though the whole light distribution remains invisible for the user, the lighting designer is expected to be and normally is aware of the whole presence of the light distribution of different types of sources, and based on that he/she designs the light effects. The designer also decides on the beam intensity and width – a decisive parameter for the strength of the light pattern. He/she could choose a linear source in order to have a continuous light pattern on the neighbouring walls, or a narrow spot if the desired effect is light forming a pool on the floor without 'touching' the surrounding walls.

The importance of understanding the light distribution for the designer prior to choosing a fitting is demonstrated by the fact that polar curves are indispensable in all catalogues while some lighting software tools have recently introduced the virtual representation of the light distribution of each fitting inserted in the virtual space. Figure 2.22 gives an

example of a visualisation from Dialux lighting calculations software. The yellow wireframe blobs occupy the space of the corresponding light distribution. The variations occur due to the special reflectors and housing of each fitting, which can significantly alter the lamp's distribution; for example, in the far right corner of the bottom image a fluorescent fitting has a distribution of a butterfly shape because of the reflectors and base, rather than a toroid that would be expected from a fluorescent tube.

In most cases the selection of light fittings and their consequent light distribution geometry is taken as a response of the designer to the architectural envelope. However, in cases where the architect gives a lot of consideration to light the shaping of the form is affected by the visualised presence of light. A very famous example of this is the design of Kimbell Art Museum reflector and ceiling (Figure 2.23). The famous vaulted ceiling was designed by Louis Kahn, while lighting designer Richard Kelly, with manufacturer Edison Price and the mathematical expertise of engineer Isaac Goodbar, designed the now-famous cycloid vault and curved reflector of perforated aluminium that channels reflected and diffuse natural light into the museum (Maile 2006b). Millet (1996) offers an insight into the design process followed by the architect before reaching the final form of vaulting while trying to achieve a diffuse light effect entering the ceiling vaults without directly hitting the paintings on the walls, using the voluminous reflectors and pipe works (Figure 2.24). Apart from the vaults, considerable design deliberation was also given to the form of the reflectors, which needed to accommodate a minimal appearance, effectiveness in light quantity reaching the interior and a perfect uniform distribution of the daylight that entered. The exact geometry and perforation quality of the reflector hanging underneath the ceiling slot aimed at regulating the daylight distribution to as even a result as possible. Even though artificial light sources play a secondary role to the lighting of the space, the solution of using a reflector to modulate daylight can be considered artificial or more of a 'hybrid' in the sense that it is a 'machine' technology originating from the tradition of fittings manufacturing. Kelly, a lighting designer who values artificial light effects as much as daylight ones, reportedly favoured mounting linear artificial light sources on the reflector rail but this was declined by Kahn, and the final solution presents spotlights mounted under the rail minimised to a complementary role (Millet 1996). However the 'slot' together with the reflector in fact makes up the arrangement of an artificial light fitting where the 'source' is the light strip of daylight entering the space from the slot and the reflectors are the typical reflectors used in fittings to empower the light to reach further into the space. This is a case where form is designed after considering the calculated propagation of light. It is interesting to see that vault section in comparison to the reversed image of a Mellow fitting produced by Zumtobel lighting manufacturer. The linear fluorescent source at the top of the product

and the form of the fitting's housing and shape of the reflectors are a miniature of the Kimbell Art museum vault structure (Figure 2.25).

Another example of surface form following the propagation of another wave-form medium is that of the Chapel of St Ignatius by Steven Holl. This example remains relevant even though the roof's curved slopes were primarily designed for sound and only secondarily for light accommodation because the concept scheme wished to address all five senses in the process of experiencing space (Holl, Gerald, and Cobb 2006). Since the propagation of light and sound is very similar, the curved ceiling engulfs natural light equally successfully. The design meets its objectives so well that the interior space of the church does not need amplifiers at all (Holl, Gerald, and Cobb 2006), but because the openings are at a critical position (covering almost all the length of the vaulted ceiling's radiuses) on the curves, the distribution of natural light is as soft and as even as the concept of the building suggested (Figure 2.26).

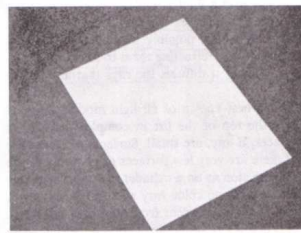
Uniformity of light distribution on architectural surfaces and the minimal presence of light patterns have been considered a quality without ever being seriously discussed. Even though the generalised use of downlight created a trend towards intentional scalloping on walls, especially when the scallop patterns followed the rhythm of niches or protruding posts or pillars underneath, this was rather short-lived in collective appreciation and most designers of construction details regularly exhaust the potential of covering up or avoiding strong patterns in interiors. In addition, the industrial design of lighting equipment exhausts its innovation techniques in inventing mechanisms of lamp housings that would allow the light beams to reach neighbouring surfaces in the most unobstructed way and create the most uniform result possible (Figure 2.25).

However, it is not suggested here that an incidental surface that reproduces the form of a hyperbolic or parabolic reflector is the answer for ideal light effects, especially when the architectural concept is completely incompatible. The notion of 'a perfect combination of form and surface' is not to be understood in the absolute sense. In some cases and depending on the concept the non-uniform is much intended and admired. When organic forms and curves are not part of the building's language or even when it does not require a soft distribution of light but an intense stimulating result, then an intense 'light scallop' for example on a wall could also be intentional and integrated because the designer's aim could be to give a feeling of projected light reminiscent of stage lighting, or to be ironic, or to respond to angular shapes introduced by the architect's idiomatic design. The Chapel of St Ignatius example supports mainly the idea of planning the space and forming the surface simultaneously with designing the light– a programmatic quality and

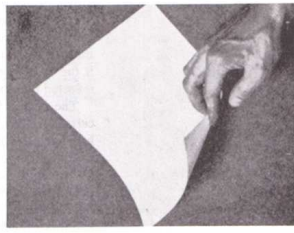
not a stylistic one. In sound design this idea has been established especially in spaces where sound propagation and the minimisation of reverberation play an important role in the project's objectives. In lighting, moreover, the form of surface does not always *follow* the light distribution. The newer light sources such as LEDs and OLEDs are of a size, shape and flexibility (modular and planar sources) that often allows them to be accommodated in the surfaces. In this case, light fitting arrangements follow the architectural form.

It is apparent that light distribution is an important design factor not only for the functional objectives of a design scheme (for which polar curves are employed, for example) but also for planning the aesthetic ones such as the visual appearance of light patterns. Instead of relying on the light pattern shape for identifying and naming an effect, the distribution geometry of each source should be (and is in fact) considered instead as the guiding principle. Designers are credited with three-dimensional understanding, perception and envisaging of light effects rather than the two-dimensional, and light effects which are named after two-dimensional patterns are in fact sequential and not primary to that conceptual thinking. The same conceptual thinking includes the geometry of the accommodating architectural envelope in a constant effort to provide a perfect combination of the two: the pre-existing and the inserted. Finally, the use of terms such as linear wash, scallops of light, pools of light, asymmetric or symmetric (distribution) belong in fact to one group, the notional group of 'geometry of distribution', which denotes the understanding and visualisation of the invisible light distribution by the designers and not the visible consequent patterns. The geometry of light distribution is another proposed design principle formed as a response to the design problem of imagining and planning light patterns formed on incidental surfaces and the design of those surfaces. It will be referred to from now on as 'geometry', and it should be understood that this term refers to concepts of geometric forms of light distribution of light sources, of the geometrical form of the sources themselves (linear, planar, point sources) and the form of enveloping or transmitting surfaces.

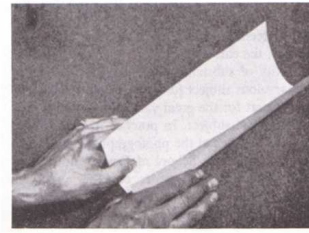
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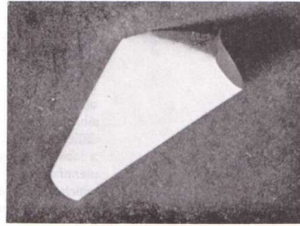
1. Place a sheet of white paper on a dark background.



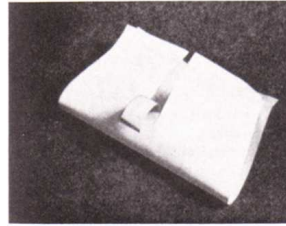
2. Bend one corner and notice the shadow cast and the gradual darkening as the paper curves away from the light source.



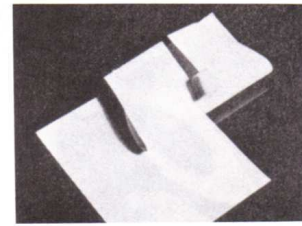
3. Observe the effects of bending up two sides.



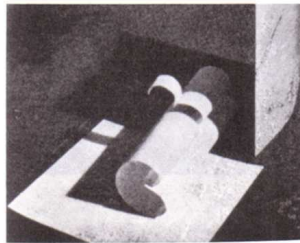
4. Fasten the four corners together to see the effect of curvature on light.



5. Cut or tear a hole in the paper and note the effects of this upon the lighting and the number of tones obtained.



6. Watch the effect of adding a second sheet of paper.



7. Add an opaque object or let the light fall across a straight edge before it hits the modulator. Observe how noticeable the curves become, due to the modeling furnished by the tone gradations.

Figure 2.20: From Moholy-Nagy's student workshops on light and form. A study of the gradation of light on surface that produces form. Part of a collection of 'light modulators', which were based on the logic of manipulating surface form to achieve different effects of light, as if the surface were the canvas and light considered to be the pigment that painted the surfaces. From *Moholy-Nagy: An anthology* (Kostelanetz 1970).

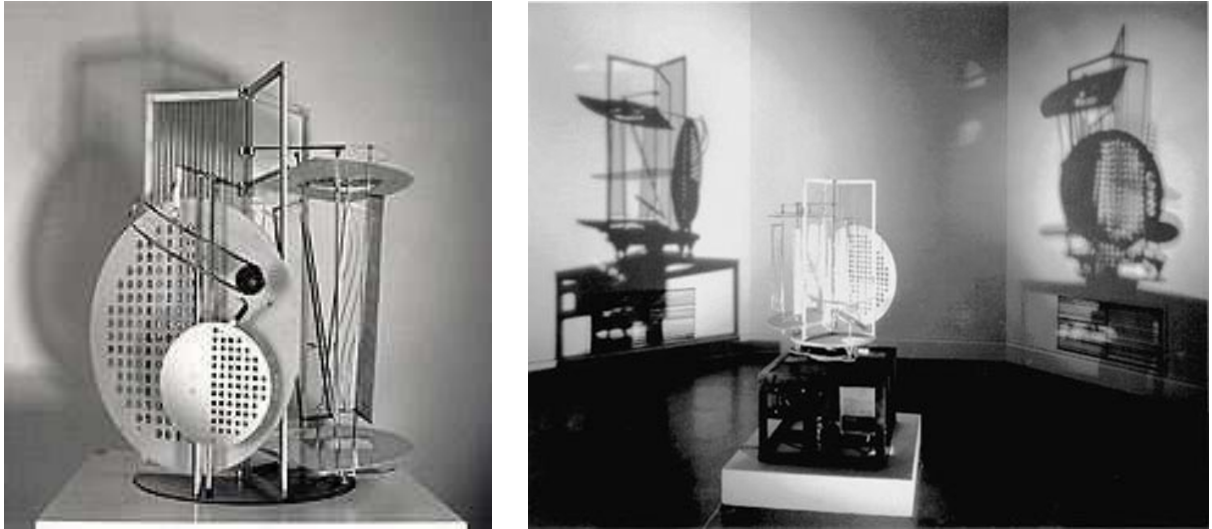


Figure 2.21: The light space modulator (left) and the shadows 'painted' on the enclosing walls (right). A lifetime project of Moholy-Nagy. (*Albers and Moholy-Nagy: From the Bauhaus to the New World*, Borhardt-Hume, A. 2006)

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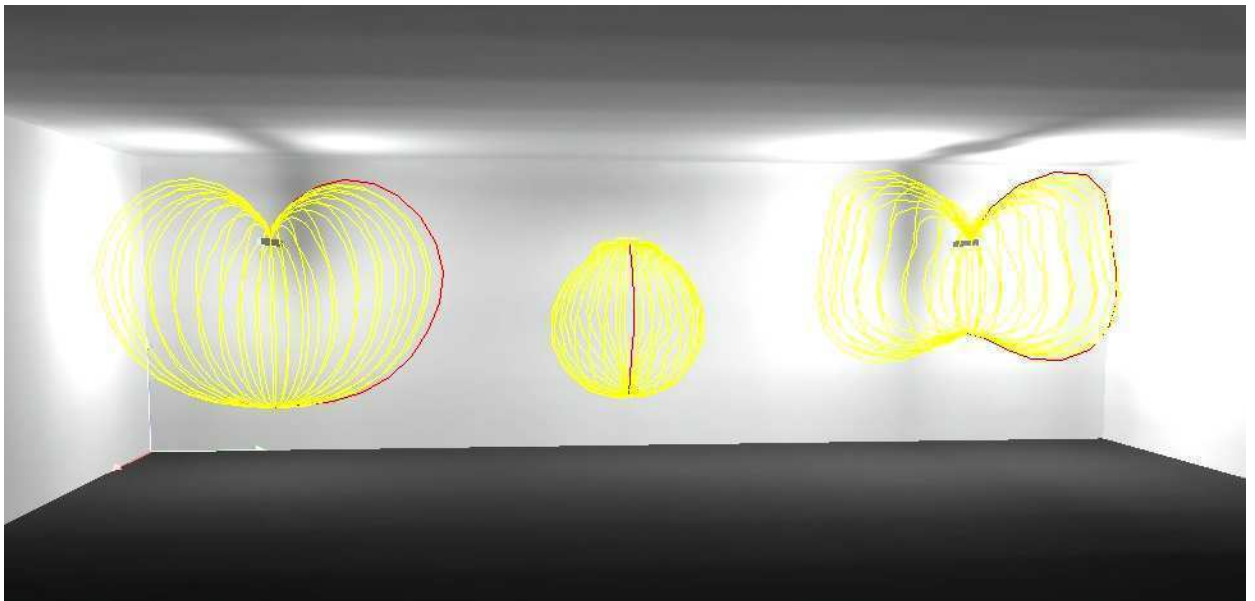
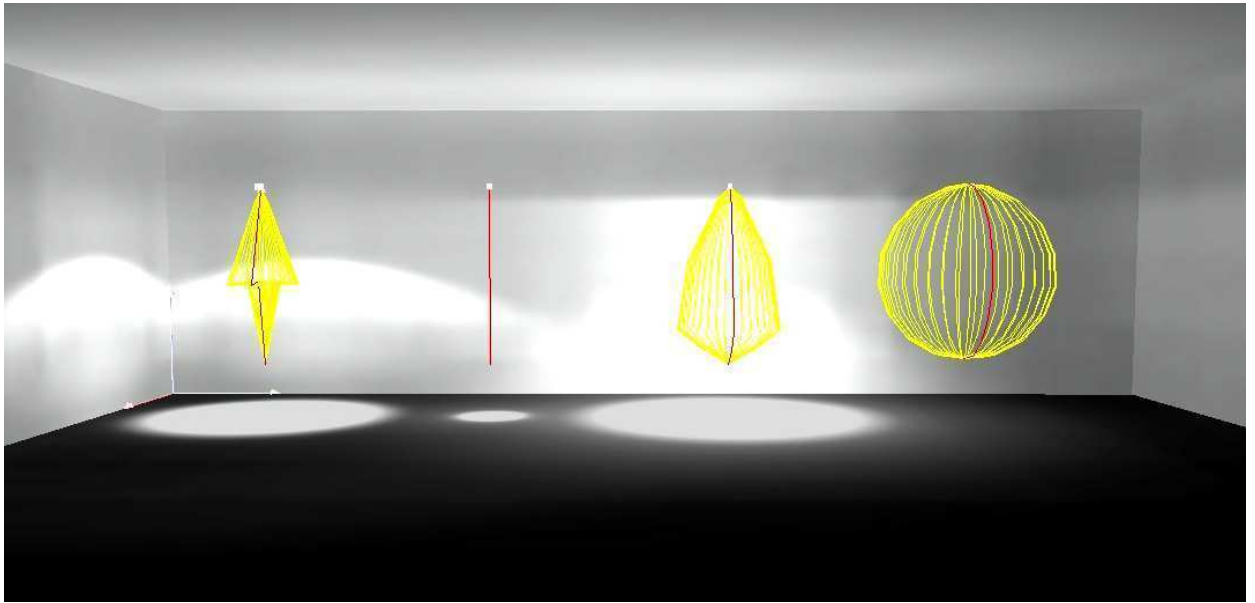


Figure 2.22: Image captions from the lighting calculations program Dialux. Top image: three tungsten halogen spotlight sources and an LED source positioned in a regular room. Bottom image: the same with different fluorescent linear sources. The yellow wireframe blobs represent the light distribution of each source. It is an addition to the latest versions of the software aimed at helping the designer visualise the space occupied by the non-material volume of the light introduced.

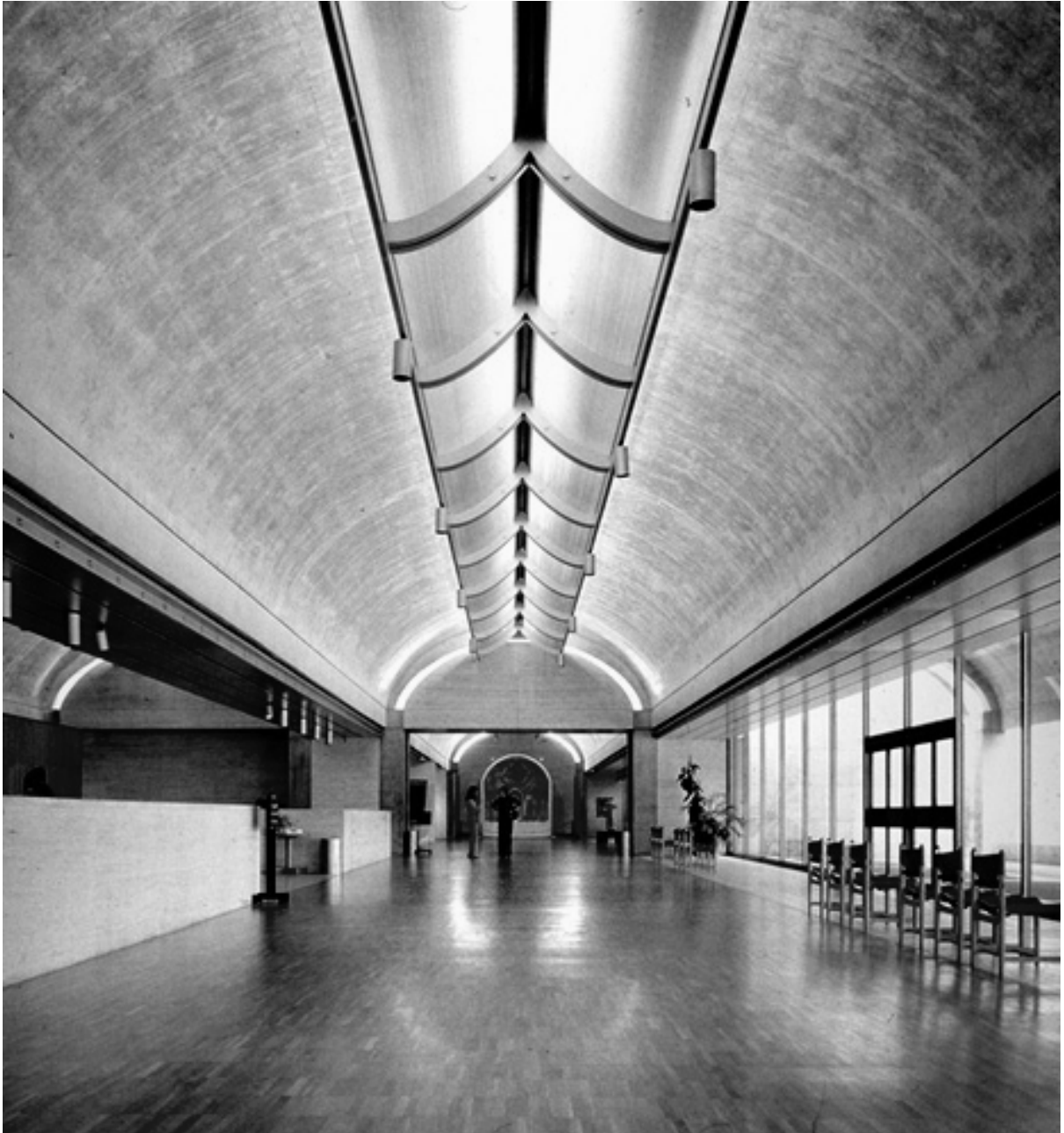


Figure 2.23: Kimbell Art Museum by Louis Kahn (architect) and the natural lighting modulation detail with the reflector that provides uniform light across the vault.

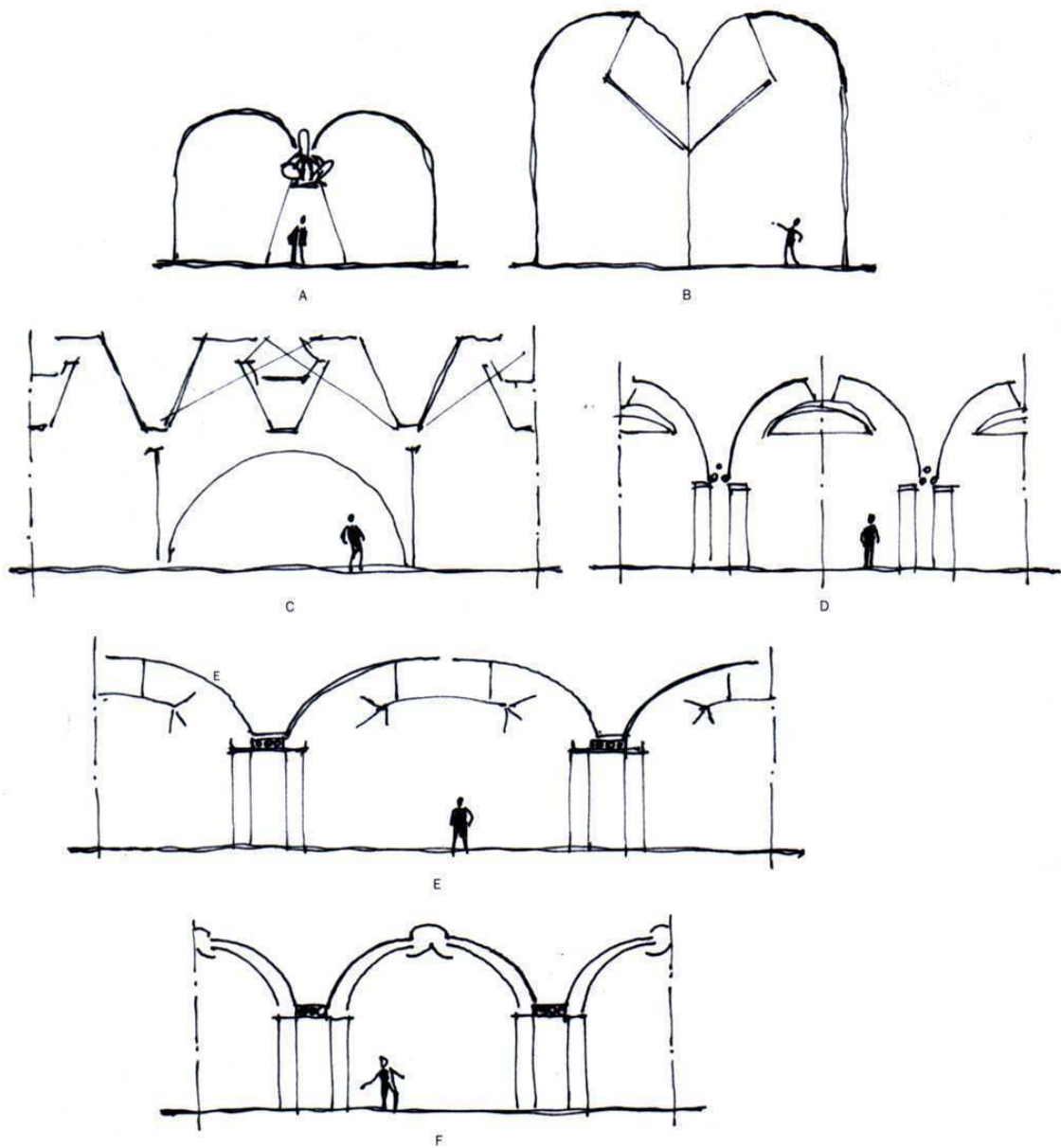


Figure 2.24: Formulation of design thinking for the vaulted ceiling bearing daylight slot, ducts and reflectors.

Original illustration from Millet *Light Revealing Architecture*. Redrawn from the Louis Kahn Collection.

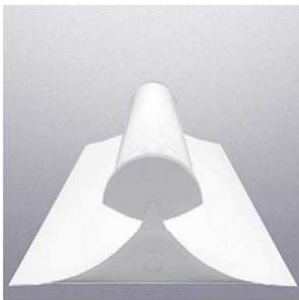


Figure 2.25: Reversed image of 'Mellow' fitting by Zumtobel comprising fluorescent light and set of reflectors. A classic arrangement of a linear fluorescent source with reflectors that accentuate the light punch in the space. The Kimbell roof detail bears striking similarities if one mentally replaces the artificial light source (fluorescent tube) with the daylight slot that spans across the arc top. Space geometry resembling light fitting geometry. Source: Zumtobel Lighting catalogue.

Emerging principles

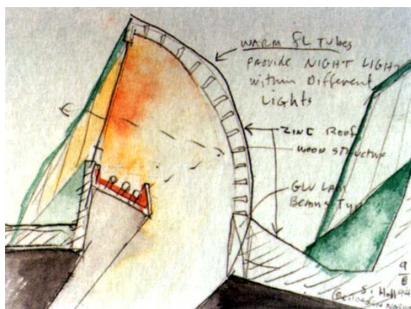
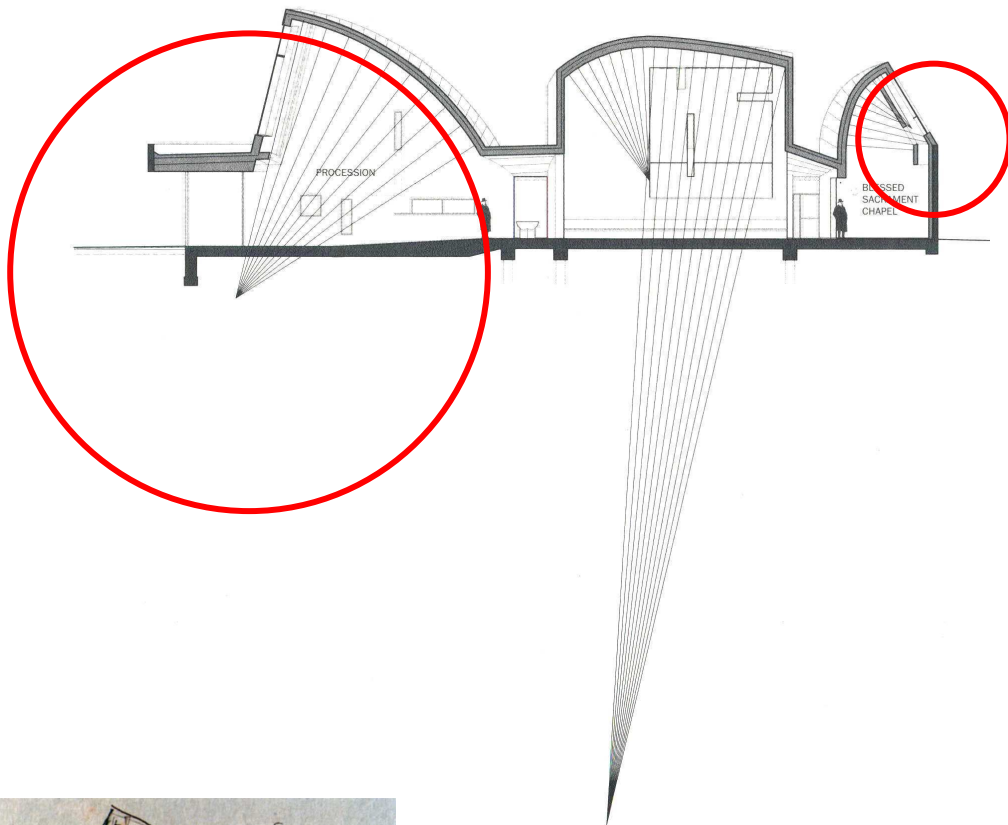


Figure 2.26: Chapel of St Ignatius by Steven Holl. The acoustic design of the architectural envelope also serves the crafting of diffuse light that emanates from the special clerestories, either natural or artificial light. Detail of one clerestory structural detail sketch (inset) with glass panes and fluorescent tubes positioned at the radius of the vault. All original illustrations from Holl's book on the project, *The Chapel of St. Ignatius* (Holl et al. 2006).

2.4 Illumination perspective

The classifications considered so far were authored by lighting designers with various kinds of involvement in the lighting profession. McCandless was a stage lighting designer, Kelly was an architectural lighting designer and Flynn and Mills were researchers and lighting practitioners. Their experience with practical problems that arose from lighting spaces led them to address pure techniques that were also directed to specific lighting effects, easy to perceive, name and understand. They were written by lighting designers and addressed to lighting designers who could recreate them since they were very immediate and comprehensive.⁸ There are, however, conceptions of light which do not originate solely from within the boundaries of the history of the profession. Light in art is a seminal field, which has been already visited in Chapter 1 with the reference to Light and Space artists, in the process of defining the seemingly elusive notion of 'light effects'. It is also worth looking at this point in an examination of the literature at those arts in which the nature of artificial light and its potential as a medium have been considered and experimented with.

Being able to think more holistically on light and form and without the functional implications of a habitable space is the privilege of artistic intellect. This accounts for the following input of artists of the 1920s and 30s sourced mainly from what is generally called the Bauhaus School, Expressionism and Abstraction in art. This section does not offer conventional 'typologies' of light effects as met in the three previous sections; instead it offers two important visual laws examined in relation to light and space perception⁹ that were clearly verbalised at that time. They explain not just how we see but also how we understand light qualities, or how light qualities help us perceive form and space; thus the link between light effects and space is revisited here. The reason for selecting the intellectual products of those specific decades and not more contemporary ones is that during that time in history artificial light dominated the urban environment as a new, popular and fascinating material. Free from conventions that had not yet had the time to set in, resembling a 'blank canvas' for artists, it was open to explorations from the avant-garde. It was also an era of the domination of the 'machine' and 'new technologies' in general, which played the role of the 'lens' – literally and metaphorically – through which visual laws were reviewed and re-established. Many cultural images of

⁸ Richard Kelly can be counted as an exception; he deviates slightly from the norm by providing a more holistic understanding of light in nature.

⁹ Space perception is here understood as perception through the sense of sight only.

lit space were imprinted in collective memory during those times and created what we may call Western lighting culture. As there is not sufficient literature that records them – at least relevant material dedicated to light – a special reference is made here. Very important input on the subject is given by Gyorgy Kepes who attest to these explorations:

Artificial lighting not only introduced a new approach to spatial representation but contributed to a broadening and a redirection of visual experiences and consequently to a radical readjustment of man's visual sensibilities. (Kepes 1951)

The enthusiasm for the brightly lit capital is also captured in *Architecture of the Night* (Nuemann 2002) and in *A culture of light: cinema and technology in 1920s Germany* (Guerin 2005), a socio-cultural approach to Weimar Berlin. In those historical records there is wide reference to New York City and Berlin – the two most brightly lit capitals of the time (Figure 2.27) – and photographic records of the illumination of building façades beginning with plain advertising floodlighting, evolving into more sophisticated backlit panels in dark-light façade compositions (Figure 2.28 and reaching a point of special linear housings for the better articulation of architectural features (Figure 2.28). This is the luminous environment of a period in which two very important artistic genres flourished: Bauhaus and German Expressionism (Skarlatou 2007). Both artistic/intellectual streams offered a lot more than the exploration of artificial light and there is also an overlap and counter-influence of ideas, which makes it difficult to be assertive on the role they played in the avant-garde conception of it. However, without it, this section of the thesis surveying past concepts of light effects and typologies would be incomplete; so a review is attempted.

The light gradation that reveals form is a recurring theme in the Bauhaus because artificial light with its strong contrasts and the photographic camera with its long-exposure shots brought it into the foreground, making it more 'visible' than ever before. Experiencing high brightness from artificial sources created a comparison between that and the quality of daylight, something which Gyorgy Kepes¹⁰ phrases as 'value scales'

¹⁰ Bauhaus scholar who provided a comprehensive document of visual laws explored and advocated by the Bauhaus school, *Language of Vision* (first published in 1944), a highly influential work on visual studies. He illustrates most of the visual laws he refers to with works from famous colleagues: Moholy-Nagy, Man Ray, Kandinsky, Klee, Malevitch, Lissitzky et al.

stretched and condensed in artificially lit environments. In the original publication, *Language of Vision*, Kepes juxtaposes the photograph and the painting as an example of high brightness and diminished light gradation in the urban environment (top image) influencing art (bottom painting) (Figure 2.29).

Where a gentle moulded gradation occurred naturally, condensed and stretched value scales were introduced (Kepes 1951)

The exaggeration of one constituent element or more (be it light, colour or form) in art is not something new. Exaggeration in light values is the distinctive quality of Mannerist painters or Van Gogh, for example. We also find stretched light values and unusual direction of light as well as distorted forms in Expressionism. This element of exaggeration of one quality, which is sometimes further enhanced by the complete elimination of others (for example, elimination of contours in figurative painting) in order to make the effect even stronger, or simply the elimination of the secondary qualities without distorting the primary ones, is one of the main characteristics of abstraction in arts. Abstraction is like a current that permeates several art movements throughout art's history and is particularly present in the 1920s and 30s. In Expressionism, form and light qualities were exaggerated to exalt emotion as in the expressionistic film *The Cabinet of Dr. Caligari* (Wiene 1920) where light coming from the street lanterns is further intensified by clean-cut angular rays painted on the floors and on the distorted walls of the scenery (Figure 2.30, Figure 2.31). The light gradation here is totally eliminated – even from the faces of the actors, which are made up with strong shadows under the eyes and over the eyelids. Here, the visual effect of artificial harsh light is driven to its maximum.

In *Language of Vision* Kepes summarises the visual laws that direct our perception of the world and their representation or manipulation in art; the making and breaking of those laws as one might say. With regards to light he singles out the effect of light gradation on form or space and gives it the name *illumination perspective*. Juxtaposed with other means of representing depth (linear, inverse perspective etc.) he establishes the role of this light effect in depth perception and concludes that the elimination of illumination perspective diminishes it, bringing the final focus plane forward, or at least looking more forward than it might actually be. Working the other way round, an extensive scale of light gradation creates the impression of more depth. The final focus plane looks further away than it might be. In Michel Lou's *Light: the shape of space* the same statement is

made but phrased in a different mode: *brightness advances* (Michel 1995). Illumination perspective is neither a single light effect nor a family of light effects, but it can be considered as the perceptual law that dictates the visual outcome of certain light effects on space.

On a similar path, the second perceptual law, the exaggeration of the scale of light values, also includes a series of light effects in space. This can be seen in two ways. First, abstraction from a perceptual point of view, as a reduction of visual information, which would mean removing the number of surfaces by leaving some in the dark while others are highlighted. If the space is considered a visual composition, one could choose, for example, to highlight only the focus walls and leave the rest in the dark in order to intensify the attention to these walls. Similarly one can chose to light only decorative elements (e.g. plaster decoration) or structural elements (e.g. metal beams) to stress the making of the edifice. Seen in another way, abstraction as a deliberate exaggeration of some features (e.g. painting walls with red light) could be considered as a 'style' or 'genre'¹¹ of lighting a space adhering to an art style – a style other than naturalistic, that is.

Kepes' definition of illumination perspective under the influence of the Bauhaus and Gestalt schools is linked to lighting and space. Under this visual law are gathered a series of light effects linked to orientation, hierarchical organisation of space, encouragement of movement and definition of focus. Those notions are not 'visual' but organisational and perceptual; but they can be considered as light effects because they fulfil certain characteristics constituting the notion of 'light effect' as those are defined in Chapter 1. They are commonly understood by lighting designers who employ them in lighting scheme objectives. They also come into being because of various light qualities and specific space arrangements. Designers use similar terminology to describe them in the design process and they are considered as lighting design values, namely as lighting arrangements that serve specific functional and aesthetic purposes. Illumination perspective is a notion tightly linked to space experience (or at least anticipation of experience) in the same way that perspective is linked to depth perception. So it is argued here that illumination perspective is a notion and an axiom that is brought forward by lighting designers in the design process when they meet specific space arrangements and wish to apply the specific light qualities. When those two coincide then we can say that illumination perspective values have been applied.

¹¹ Both 'style' and 'genre' are borrowed since the first is mostly used for painting or decoration and the second for film. But both are used to describe variable expressions of the same creation.

The first and most obvious effect a designer would like to achieve with light in a sequence of spaces or through a long space is to reveal its *depth* both for functional reasons – depth knowledge provides a feeling of safety – and for aesthetic ones – it is most likely that the depth of a space in length or in height is not consequential but intentional on behalf of the architect. ‘Brightness advances’ (Michel 1995) and therefore illuminating objects or surfaces lying at the end of a visible route creates an impression of a shorter distance to be covered and a safe target to be reached. In contrast, a dark final focus wall creates the impression of a longer distance and of an unsafe destination, which, however, can create suspense and expectance feelings. A brilliant example of this is a recent Tate Modern Turbine Hall installation by Mirosław Balka, *How It Is*, which offered the experience of total light deprivation along a long black box in which ‘perspective was distorted’ and there seemed to be ‘no discernible vanish point’ (Searle 2009). Different techniques and applications of this type of light effect can create different impressions of experienced space. For example, Le Corbusier lyrically describes the series of attached rooms of the Green Mosque in Bursa, Turkey, thus:

You are in a great white marble space filled with light. Beyond you can see a second similar space of the same dimensions, but in half light and raised on several steps (repetition in a minor key); on each side a still smaller space in subdued light; turning round you have two very small spaces in shade. From full light to shade, a rhythm. Tiny doors and enormous bays ... You are enthralled by a sensory rhythm (light and volume) and by an able use of scale and measure, into a world of its own (Millet 1996)¹²

This short description – followed by a sketch which gives the average dimensions of the attached spaces (Figure 2.32) – employs two types of information to capture the imagination of the reader: the relative size of the spaces in the following order: great, equal, smaller, very small; and the relative brightness of those spaces in the corresponding order: full of light, half light, subdued light, in shade. The relative values are appreciated according to the room’s values in which the narrator stands at the time of the observation.

Since perspective presupposes depth, or a sequence of spaces, it is not just about the static image of a space but also about the dynamic image and how it changes for the

¹² Le Corbusier describing the experience of walking into the Green Mosque in Bursa. Original citation from *Towards a New Architecture*. Translation by Frederick Etchells. 1974.

user who processes through a sequence of spaces. Michel has written about *movement* through space (people's movement patterns) and how lighting can enhance it (Michel 1995). Users are immersed in the space and can follow various routes so small changes in light levels between inter-connected spaces or elements of the same space can enhance movement across their desirable routes. However, this contradicts the fact of perceptual constancies according to which we are bound to perceive spaces as unwavering, even when the brightness levels have changed. Due to our complicated perceptual system, when we grow accustomed to the visual appearance of a space we are more likely to perceive it as invariable in brightness when crossing it. Therefore, a designed variation in lighting is useful for initiating incoming users across spaces and orientating them forward, where they do not know what lies ahead, rather than providing a constant stimulus for existing visitors.

Another problem that belongs to the same group of light effects is the achievable control of light values, especially when and where daylight has been the predominant factor for the architectural design of a space. Going back to Kepes, daylight values often present softer transitions in between spaces and along time spans, whereas artificial light, which has grown to be culturally assimilated in collective appreciation but is still considered inferior to daylight by architects, offers strong. Louis Kahn has been quoted for the following:

Artificial light is only a single little moment in light ... I can't define a space really as a space unless I have natural light. And that is because the moods which are created by the time of day and seasons of the year are constantly helping you in evoking that which a space can be if it has natural light and can't be if it doesn't. And artificial light – be it in a gallery be it even in an auditorium – loses one a great deal.(Kahn 1961)

Relating *time* with *light* qualities in these words, Kahn is expressing the small span of light values that artificial light often presents and the changelessness those values manifest during the passing of time. Spaces which are originally designed to be enjoyed by diurnal light – experienced in depth from the openings towards the back of the rooms, or in transition from outside to inside – present the design problem of 'flatness' when artificially illuminated.

The text above is again not presenting suggestions of plausible solutions for specific space arrangements. It is exposing various design problems which occur while considering the visual law of perspective in lighting design schemes. In some cases those

'problems' are solved with the application of specific light effects which fall into this category, but the effectiveness of each application always depends on how well the connection between the spatial concept and the lighting concept is made. Some rules of thumb in lighting sequences of spaces can and should be reconsidered when the initial conception of the space desires a more imaginative outcome. But this shifts the investigation from the nature and definition of light effects to the thoughtful and successful employment of light effects in consistent lighting schemes. For the purposes of this chapter, illumination perspective remains a visual law that links space with illumination technique and includes a set of light effects that apply this visual law in space. It will be briefly described from now on as 'perspective'.

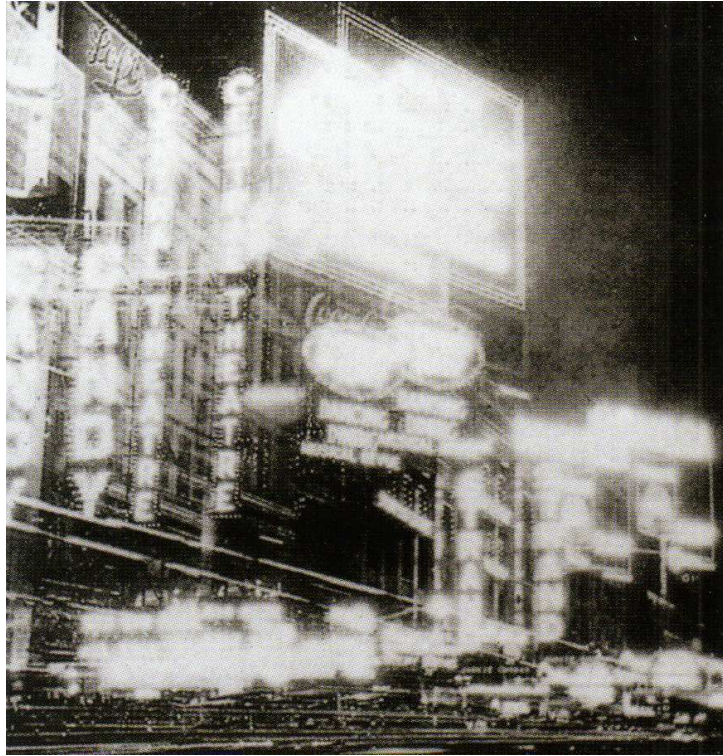


Figure 2.27: Artist's impression of the luminous environment of the 'big city'. From. Neumann's *Architecture of the Night*. Credit to Fritz Lang. Times Square, 1924. Originally published in: Erich Mendelson, *Amerika* 1926.

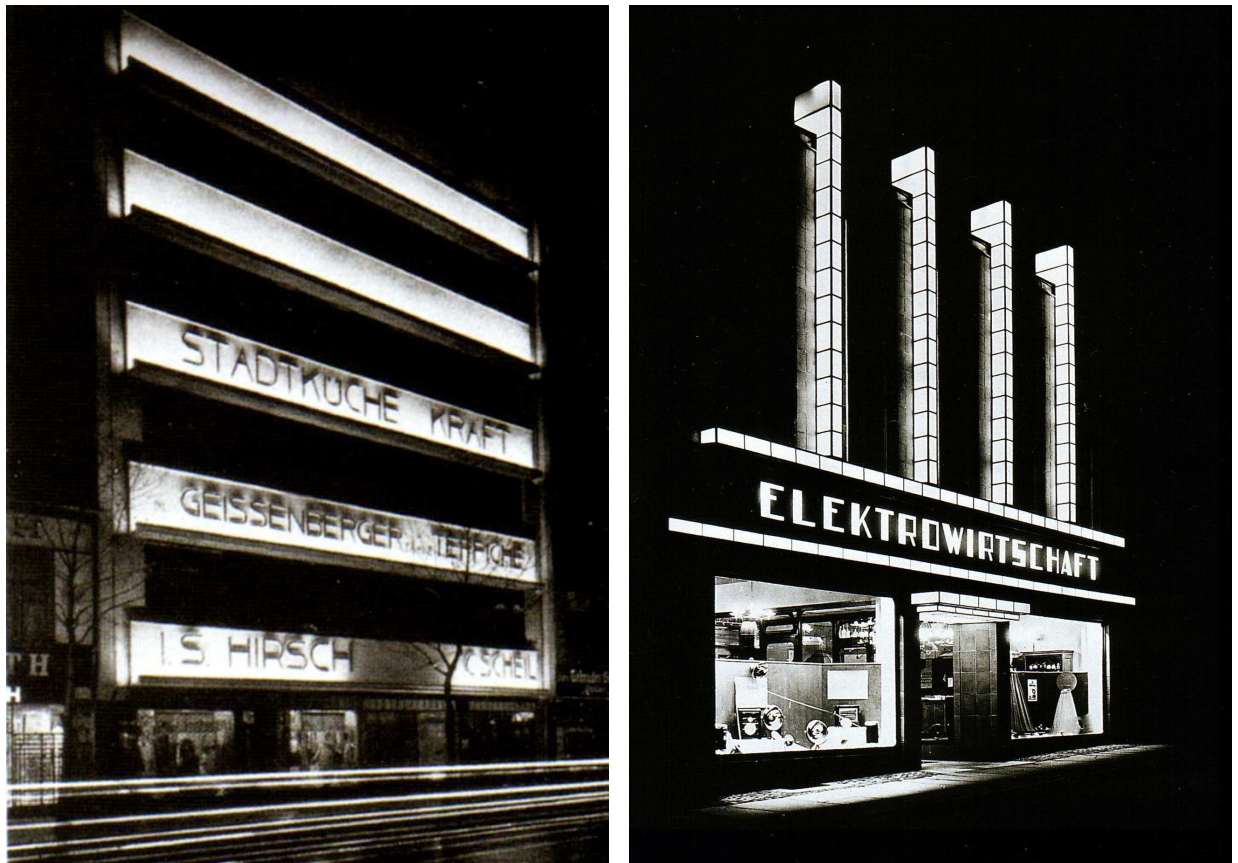


Figure 2.28: (Left) Light sources incorporated into channels at the bottom of every ledge in this lighting scheme from Weimar Berlin. Façade lighting that stresses the architectural features. (Right) Façade lighting of Weimar Berlin with light backlit panels as luminous objects against the dark canvas of the façade. A visual composition from base to top. From Neumann's *Architecture of the Night*.

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Figure 2.29: Top: picture of an urban scene. Bottom: juxtaposition of a painting influenced by strong contrasts of artificial illumination. Original illustrations from Kepes *Language of Vision*. Credits: Bernice Abbot for top photograph and R. J. Wolf for bottom painting.

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Figure 2.30: Inside the Cabinet the hanging lantern leaves strong sharp beams on the surrounding walls and floor. An example of the expressionist stretch of light values. Film still. *Das Kabinett des Doktor Caligari* (*The Cabinet of Dr Caligari*). 1920.



Figure 2.31: Scene in the street. Urban lanterns are a recurrent theme all over the film set. Film still. *Das Kabinett des Doktor Caligari* (*The Cabinet of Dr Caligari*). 1920.

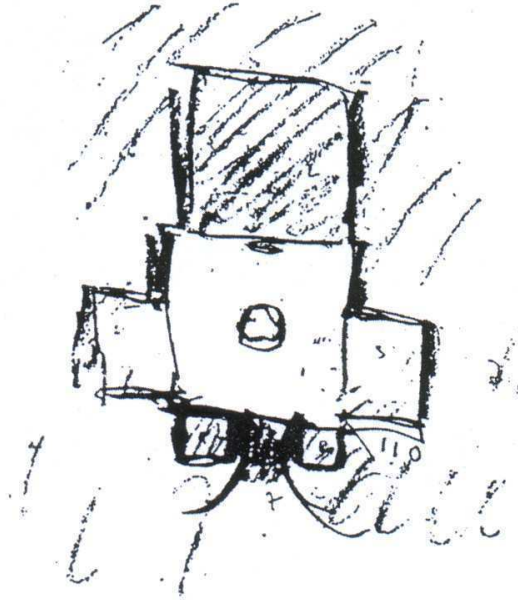


Figure 2.32: Sketch of the Green Mosque in Bursa, Turkey, by Le Corbusier. It depicts the central white marble space in 'full light', the second equally sized space in 'half light', the smaller spaces in 'subdued light' and the very small spaces in 'shade'. With these expressions Le Corbusier describes variations in light levels in each distinct space. The levels are represented in the sketch with different hatching densities. Original illustration from *Towards a New Architecture* cited in Millet's *Light Revealing Architecture* (1996).

2.5 Abstraction in illuminated spaces

Richard Kelly was a lighting designer who reached the peak of his career in the midst of the International Movement and was unavoidably shaped by it. He dedicated his whole life's work to promoting the new profession of lighting design to major architects of the International Movement, such as Mies van der Rohe, Philip Johnson, Louis Kahn and Eero Saarinen (Maile 2007; Scutt 1979), and to unfolding his theory of three elements and applying it to his various commissioned projects. His theory was best defined in his lecture in Cleveland, Ohio,¹³ which was later published in *College Art Journal* as 'Light as an Integral Part of Architecture' (Kelly 1952). The main core of this theory is that the effects of light, natural or artificial, can be basically identified as three elemental types:

1. Focal glow
2. Ambient illuminance
3. Play of brilliants

The explanation of what each term means is achieved through various similes and metaphors. They are described using classical painting and natural imagery and with real examples of Kelly's realised work, illuminated architecture. Through the example of painting Kelly compares focal glow to a painting's highlights, ambient illuminance to graded washes and play of brilliants to sharp detail. Through general natural imagery he narrates the following:

Focal glow is the campfire of all time. It is also the celebrated limelight of aphorisms because the Early English Halls used antiquated projectors which burned a gas resulting from wetting a kind of lime¹⁴. Focal glow is the follow spot on the modern stage. The shaft of light that warms the end of the valley. It is the pool of light at your favourite reading chair. It is the shaft of sunshine the warms the end of the valley. It is the candlelight on the face and a flashlight on the stair.

¹³ A joint meeting of the American Institute of Architects, the Society of Industrial Designers and the Society of Illuminating Engineers.

¹⁴ Richard Kelly's description here is inaccurate in a historical and scientific context. In fact lime light was made by heating a block of lime in an oxy-acetylene flame while Acetylene is made by adding water to calcium carbide.

Ambient illuminance is the uninterrupted light of a snowy morning in the open country. It is foglight at sea in a small boat, it is twilight haze on a wide river where shore and water and sky are indistinguishable. It is the before-the-show lighted dome and amphitheatre of the Hayden Planetarium, the full cyclorama of the open theatre. It is any art gallery with strip lighted walls, translucent ceiling and white floor. It is also all we know of 'indirect lighting'.

Play of brilliants is Times Square at night. It is the eighteenth century ballroom of crystal chandeliers and many candle flames. It is sunlight on a fountain or a rippling brook. It is a cache of diamonds on an open cave. It is the rose window of Chartres. Night automobiles at a busy cloverleaf, a night city from the air. It is the trees outside your window interlaced with the beams of spotlights. It is a sparkling cabinet of fine glassware.

Kelly's theory has become very popular for its holistic values even though it did not provide any evident space-specific definitions. The light effects Kelly is describing can exist anywhere, in any form of space, even in imaginary space. Times Square at night and an 18th-century ballroom chandelier have the sparkle of light as a common feature. The spaces themselves do not matter, only the phenomenon of light sparkle does (Figure 2.33). This shift of paradigms is a form of abstraction that dissociates light from space references by avoiding the use of images and employing text instead. As a consequence the descriptions of effects dominate the descriptions of space, while the most common thing is directly the opposite; as seen in previous light effects classifications. This constitutes a theoretical input for the profession because descriptions of light effects based purely on imagery signals the use of *concepts* in lighting design thinking. And this is of the outmost importance since concepts diversify design from the engineering of lighting. Concepts are *conceived* by lighting designers as preliminary ideas lacking details but full of meaning and are *then* implemented with the use of techniques, in a more or less linear process.¹⁵ Without the presence of concepts, mere lighting techniques are filling the gaps of 'novelty in lighting design' in an ungainly and meaningless way. So it is the lack of space element but the potential of being implemented in space that makes Kelly's descriptions fuller in meaning.

¹⁵ What is meant here is that the concept-implementation process is linear and not the forming of the actual concept, which is a rather parametric process.

Being primarily a successful practitioner, Kelly demonstrated how the three elements could be applied in the built environment through his prolific projects (Figure 2.34). His most acknowledged project is Mies van der Rohe's Seagram Building (Maile 2007; Maile 2006; Architectural Forum 1958; Lambert 2005; Lambert P. 2001; Drexler 1958) (Figure 2.35, Figure 2.36). Critics and historians praised the lighting of this building while identifying as 'focal glow' the illumination of the podium square volumes standing in the ground floor lobby against the rest of the open-plan space that lies in the dark (Figure 2.35). The double row of diffuse ceiling panels running across the perimeter of the overhanging office floors is appreciated as an excellent 'ambient light' source that serves both functionally and compositionally in the sense that it provides glare-free uniform illumination for desktop tasks and remains loyal to the Miesian grid forms. Other Kelly projects provided the canvas for the realisation of the third quality of light: the Barbizon chandelier and the metal mesh lit curtains running round the perimeter of the Four Seasons restaurant¹⁶ as the perfect demonstration of a play of brilliants effect (Figure 2.34). In theory (Figure 2.33) and implementation (Figure 2.34) those effects are outstanding. However, what makes the Seagram Building an acknowledged successful scheme is not just the visualisation of Kelly's polemic theory. The choice of effects in the correct place, the proper scale and mostly the right geometry are tied together with the Miesian composition, which is already full of architectural meaning and modernist values. The specific lighting scheme has other values that run as an undercurrent and serve the architectural purposes instead of doing just the necessary – providing adequate light. For example lighting the podium walls with linear vertical light, while leaving the rest of the lobby space in relative darkness, is a gesture that draws attention (focal glow draws attention) to the solidity of the granite blocks against the rest of the open plan space (Figure 2.35). This coincides with the architect's intention of creating a sense of heaviness: the podium blocks bearing the load of the overhanging skyscraper. A successful interpretation of the architect's intentions is something often pronounced in concepts, albeit rarely delivered. It is also an example of how a lighting effect from theory is applied in practice to aid the space articulation in exactly the same way as it is defined: *focal glow draws attention, separates the important from the unimportant*.

The definition of the three elements also offers something else: the identification and naming of lighting hierarchy and the effect it has on perceiving space accordingly. Accent lighting makes objects or entities 'stand out' from the enveloping space while ambient light bathes space in a more concrete undifferentiated reality where everything is

¹⁶ Although the Four Seasons restaurant is a project within the Seagram Building, it is often cited separately, because it was implemented at a different time and had separate access from the main office building.

perceived equally to everything else. Accent light is an exaggeration that draws attention to the subject without necessarily eliminating the sense of other objects around it. In that sense accent light is an applied abstraction while ambient light is a concrete reality undifferentiated. The following descriptions by Kelly follow in the original document the definition of the three elements quoted above by describing the 'effect' they have on users' perception of space. Kelly characteristically says:

Focal glow draws attention, pulls together diverse parts, sells merchandise, separates the important from the unimportant, helps people see. Focal glow sometimes becomes multiple foci desirably producing a significant composition of attention. As the number of foci increase to more and more complex compositions, a pattern results which can resemble the second basic element of light – ambient luminescence.

Ambient luminescence produces shadowless illumination. It minimizes form and bulk. It minimizes the importance of all things and people. It suggests the freedom of space and can suggest infinity. It is usually reassuring. It quiets the nerves and is restful.

Play of brilliants excites the optic nerves, and in turn stimulates the body and spirit, quickens the appetite, awakens curiosity, sharpens the wit. It is distracting or entertaining. (Kelly 1952)

Here ambient light and focal glow are presented not so much as variations of light effects but as two opposing forces – as far as visual perception is concerned – where the presence of the one extenuates the appearance of the other (with 'play of brilliants' being the extreme form of 'focal glow').

The notion of abstraction that has been used above is admittedly an extremely wide and manifold one in visual studies because it has been used by art in many different contexts. And not just in art. Perceptual psychology, theory and art criticism, visual studies, neurophysiology, brain studies, and even mathematics employ abstraction for expressing different notions varying from the level of perceptual fermentation, to problem-solving and to a mechanism of formulating concepts. All creative work requires abstract thinking but creative work in lighting presents some particularities. Light effects, unlike

structures, are non-material but they do not consist only of 'ideas'. They are visible phenomena that exist in relation to specific space configurations¹⁷. Notionally separating them from those space configurations, before this was being done by Light and Space artists (Chapter 1), is one form of abstract thinking that Kelly has achieved via the verbal descriptions of the three elements in the first excerpt above. He has separated the material from the non-material (light – space) and this kind of thinking – fundamental for a lighting designer – is the first important point about his theory. Based on that we can easily explain why lighting designers use abstract thinking when separating lighting effects from each other and recomposing them into lighting schemes, while also imagining the composed lit environment separately from the other visual elements. The second important point about Kelly's theory, which is evident in the second excerpt, is that he has managed to place light effects in meaningful hierarchies. One can say that this is just a renaming of different levels of brightness, something widely known in the fundamentals of lighting; however the variation of brightness on its own remains meaningless.

Gestalt-based theories of perception also hold sway over the mental process of structuring and organising the visual entities, which of course is another way of abstract thinking. The work of Kevin Lynch, demonstrated in the *Image of the City*, is based on the belief that people make sense of the chaotic visual environment of the city by somehow organising and structuring characteristic elements of it. Based on this hypothesis Lynch sets out to verify that landmarks, nodes, borders and other elements are the characteristic elements of this subconscious structuring and organisation (Lynch 1960). This very influential work is in fact a Gestalt-based theory of visual organisation in a specific visual environment: the urban environment. But the illuminated environment can be dealt with similar approaches. Millet asserts in *Light Revealing Architecture* that:

The relationship of each part to the whole is important as it is these relationships that inform our perceptions of a room, a building and a space. Light emphasizing form in an organizing way creates visual order in the built environment. (Millet 1996)

¹⁷ To be more accurate about the spatial character of Kelly's elements, focal glow ambient illuminance and play of brilliants contain a notion of size of the effect but they are not providing information about the space they are contained in. So in a sense they have a space entity but do not predefine the space configuration that holds them.

Under this conception of an inherent structure of the visual environment, there have been comparisons of it to language. Gibson discusses the comparison of visual thinking as being similar to verbal thinking but freer and less stereotyped:

Perception is basically an act of classification by the observer, assuming that classes have to be imposed on the data. (Goodman cited in: Gibson 1971)

He also makes reference to Kepes' statements in *Language of Vision*:

Just as the letters of the alphabet can be put together in innumerable ways to form words which convey meanings, so the optical measures and qualities can be brought together in innumerable ways, and each particular relationship generates a different sensation of space. The variations to be achieved are endless. (Kepes cited in: Gibson 1971)

In *Abstraction in Art*, Zimmer (2003) chooses to make a reference to the famous paper by neurologists Ramachandran and Hirstein, *The Science of Art* (Ramachandran and Hirstein 1999), which summarises the production and perception in art in eight laws. Zimmer refers to only four of them and quite extensively to the 'peak shift' principle, namely exaggeration in art. The overall interest of this paper is to extract conclusions on brain function originating from the production of art but nevertheless the universality adhered to in those principles and perception proves useful for the current discussion as well. Exaggeration in expressionism is evident in the intense angularity of forms and light beams. Here exaggeration is dealt with by any kind of features being intensified to a point of caricature (statues with exaggerated proportions for extra femininity etc). Exaggeration is also dealt with as another form of abstraction. This can exist in form, colour, depth or motion. Ramachandran and Hirstein also make reference to artists who:

have deliberately exaggerated ('caricatured' or produced peak shifts in) shading, highlights, illumination etc to an extent that would never occur in a real image. (Ramachandran and Hirstein 1999)

The 'peak shift' principle or 'exaggeration' is applied to lighting qualities and how they can be exaggerated in art. It makes sense to assume that the authors refer to artists such as Rubens or Caravaggio who famously have created strong light contrast techniques, unnatural exaggerations in painting – named 'chiaroscuro' – to exalt the

senses. However, lighting space remains a visual experience of immersion of the user in three-dimensional reality and of constant change of images due to movement of the user and shift of position. If one thinks about it, the Richard Kelly light effects include abstraction by definition. This type of abstractive mechanism is also contiguous with Ramachandran and Hirstein's mechanism of 'isolating cues' and of the rather direct 'reductionism' mechanism of perception which is often criticised as overly simplistic. Reductionism in abstraction is justified by the etymology of the word: *abstrahere* (to draw away), which can be seen in the positive or negative sense, depending on the value of what is withdrawn and what is left behind (Zimmer 2003). Arnheim also discusses abstraction as withdrawal, condemning the concrete versus abstract opposition as an ill-defined one (Arnheim 1969). The mechanism of isolating cues is again contingent on reductionism and exaggeration as this proposes that the human perceptual system is accustomed in processing single modalities of a subject and focusing on each at a time. This explains, for example, why outline drawings are as remarkably meaningful, informative and attractive as more realistic paintings and images. The argument is further reinforced by Zeki's discovery of the visual processing assigned area of the brain which performs specialised tasks, as opposed to the main processing, performed by V1 area.¹⁸

There are different notions and understandings of abstraction as a mechanism of perception in the visual environment and those that relate to the lit environment. Abstraction has been presented as a conscious and elaborate reduction of visual information in favour of other intelligence. Of course planning and designing the light is in essence planning and designing the medium through which objects will be seen and as a medium it is destined to be less noticeable than the objects themselves. Designing with light, as said above, is planning what will be seen and what will not while simultaneously considering how this information will be perceived and what it will mean to the viewer. Therefore the role of abstraction is paramount for both the contemplation of design and the outcome. Richard Kelly may have not left much text other than a few articles in important design magazines and a few lectures in American architectural departments, but his theory of three elements, with a light-oriented use of abstract thinking, presents a strong organisational value for imagining and planning light in space.

¹⁸ V1 is the primary visual cortex, and V2, V3, V4 and V5 are extrastriate visual cortical areas. A very condensed description of the original work of Semir Zeki on the human visual system and the perception of art which can be found in full extent in: *Inner Vision* (Zeki 1999).



Figure 2.33: The visual qualities of the three lighting elements by Richard Kelly described in generic natural imagery experienced by everyone.

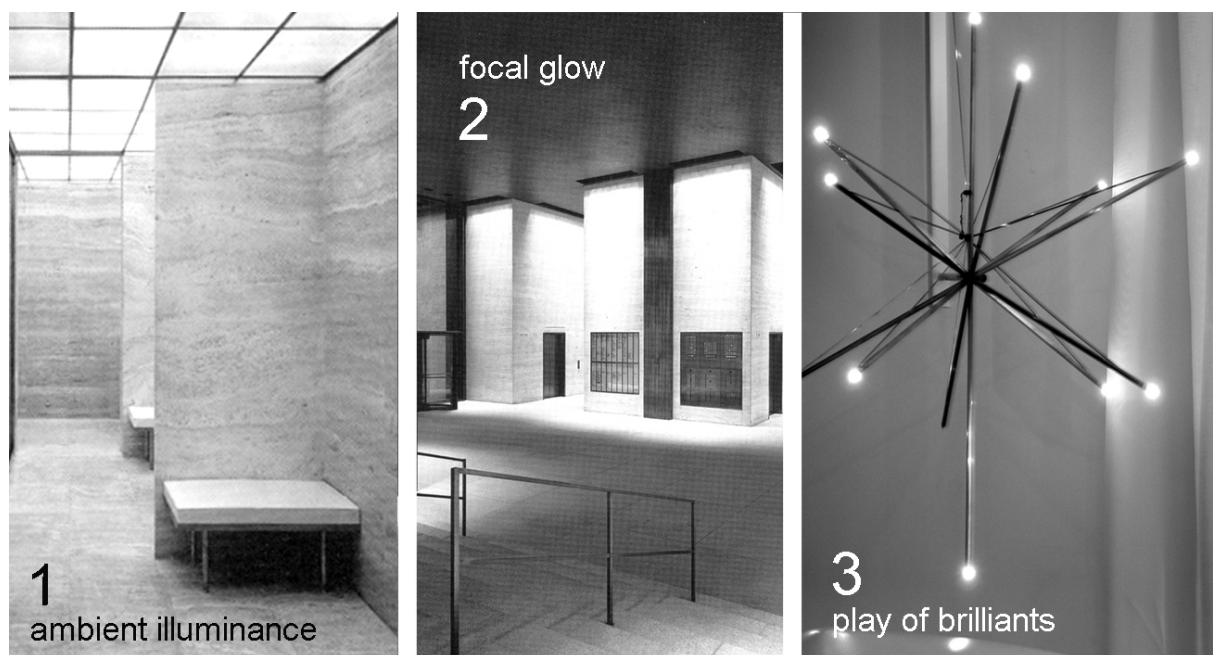


Figure 2.34: The three elements as Richard Kelly reproduced them in artificial light schemes. Here in Seagram Building WCs, Seagram Building entrance lobby and Barbizon Hotel chandelier (from left to right).

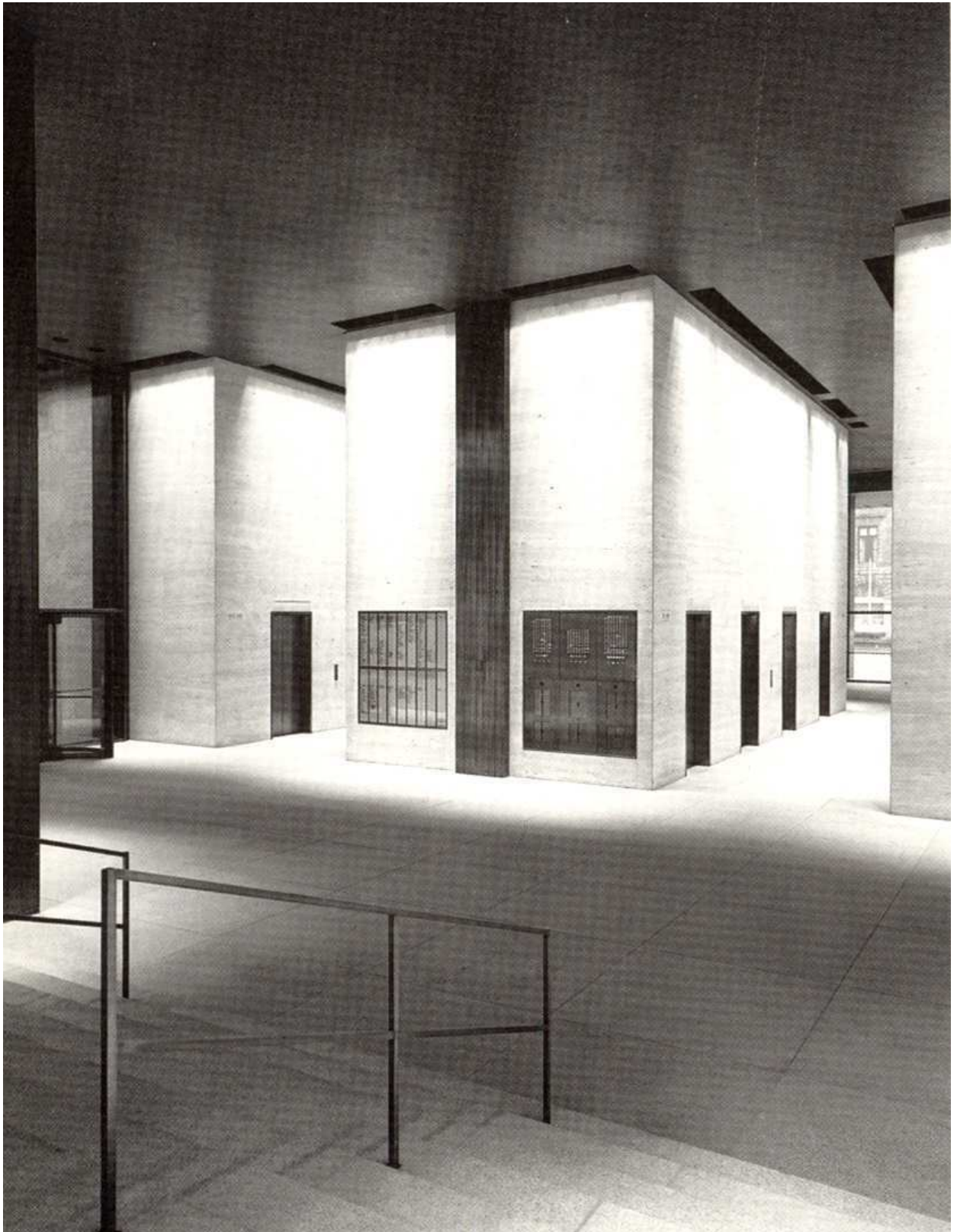


Figure 2.35: In the open plan entrance lobby of the Seagram building four podium blocks (see plan in Figure 2.36) housing the lift shafts and services were clad with pink granite giving a contrasting sense of solidity against openness

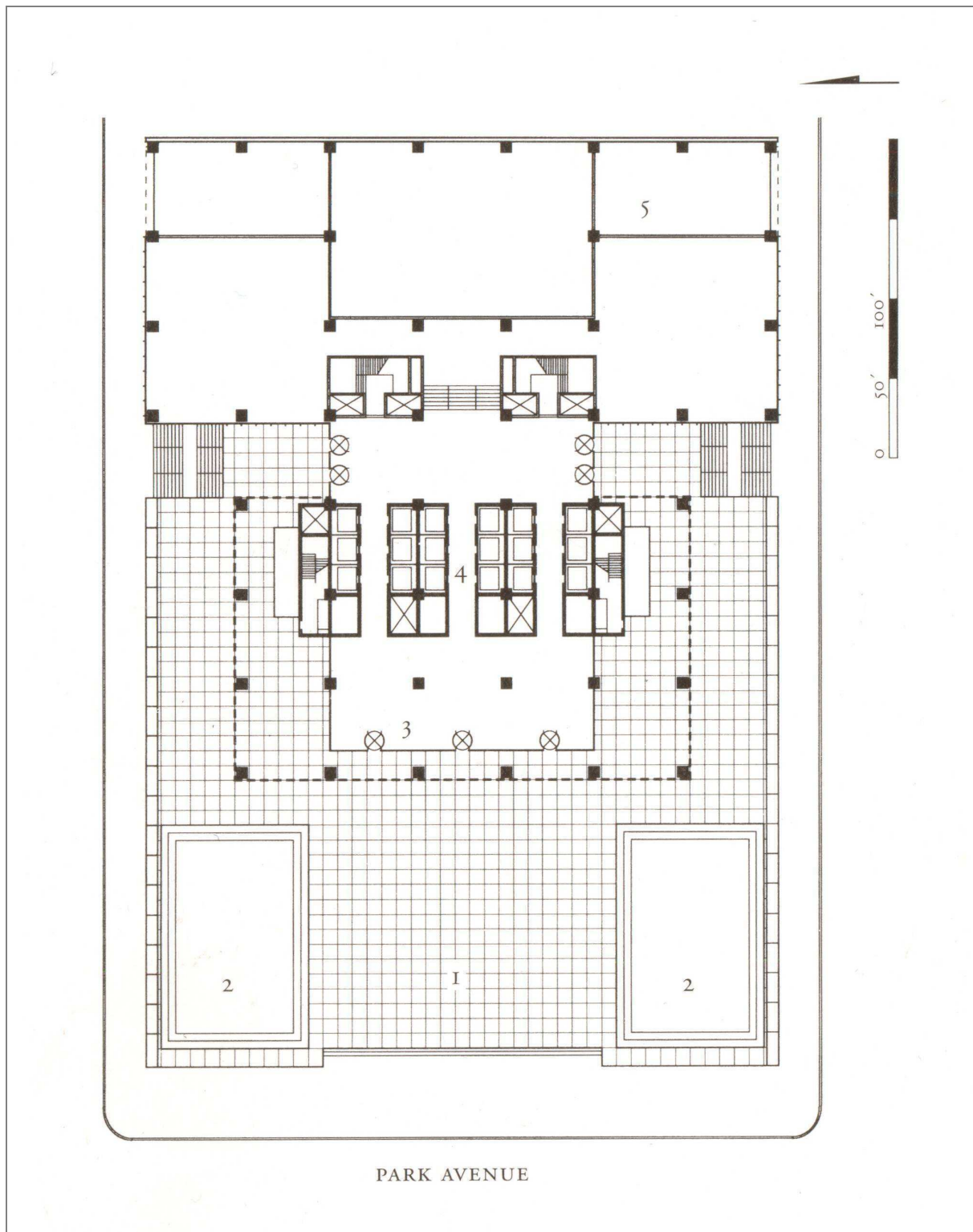


Figure 2.36: Plan of the entrance lobby with the four podium blocks (4), the overhanging volume projection (dotted lines), the glass entry walls (3) and the surrounding piazza (I) with two fountains (2). Lower parts of the skyscraper building are attached to the back (5).

2.6 The syntactic relationship of surface and source

Based on the constructivist theory that all human languages share an underlying universal grammar and on the fact that light perception is based on visual perceptual abilities that apparently are also inherent and universal, Lynes (Lynes 1996) holds that lighting has also a language together with all its implicit. He talks about syntax, grammar, expression, sequence, accents and other correspondences between language elements and lighting elements. Forster also raises the subject in a conference presentation (Forster 1980). Abstraction and the organisation of visual information to convey meanings richer in context than verbal information are also discussed in this paper. Even though there was not much impact from either of these publications, the concept of sources and surfaces in a syntactic relationship is very interesting as it adds an extra layer of meaning to the selection and application of light effects in spaces.

Source and surface are automatically thought of as two separate elements in a space with clear origins and roles. The source is always the emitter of light and therefore takes an active role. The surface is a man-made only structure that always acts as a receiver. This is the archetypal¹⁹ disposition that one thinks of if asked to visualise a lit space. Beyond the archetypal lighting though, the roles of active and passive are not so concrete (Lynes 1996), (Lynes and Bedocs 1994) and here are some examples when this is made apparent: A high-reflectance surface reflects light back to the rest of the space on other neighbouring surfaces and therefore acts as an emitter too. Similarly if the reflecting surface is the sole emitter in space one can perceive the radiance of light falling successively on secondary and tertiary surfaces and reflecting fragments of the incidental light endlessly. A backlit surface is simultaneously a surface and a source. LEDs and OLEDs embedded in surfaces are another example where the boundaries between active and passive blur (Figure 2.37). As Lynes states in (Lynes 1996; Lynes and Bedocs 1994), wherever the distinction between active and passive breaks down, the outcome is visual ambiguity which, like verbal ambiguity, may be either stimulating or confusing depending on the context. Self-luminous surfaces, for example, are ambiguous as hybrids of active and passive illuminance. They don't stop being perceived as surfaces of translucent glass or any other material, but simultaneously are also perceived as light sources, in some cases good enough to illuminate the whole of the neighbouring space (Figure 2.37, Figure 2.38). This conception from Lynes is not a classification of light effects per se but

¹⁹ Archetypal here means sun and daylight. The sun's light qualities are the archetype of light for all human beings.

is a principle which, if handled properly, can lead to the creation of light effects. For example, in (Figure 2.39) the handling of coloured surfaces as secondary illumination sources ties in perfectly with the spatial concept of interlocking volumes so the architect's implied sense of 'outdoors' without experiencing direct visual contact is achieved, simply from coloured light leaking through the geometric holes. Without needlessly going in to structuralist concepts and trying to link them with the design of light it is hereby suggested that Lynes' approach raises an important point about the concept and realisation of light effects. It rephrases also the questions posed by Moholy-Nagy and his avant-garde experiments with surfaces and electric light (Section 2.3). The relationship between surface and source, and how the forming of this relationship happens in schemes, defines the quality of effects. The words 'passive' and 'active' are never used in lighting schemes; 'integrated' light (lamps hidden in specially designed architectural coves or niches) is a far more frequent description for a certain style that wishes to give the impression of a glowing architectural envelope. It is a sort of minimalism that hides the service lines within the body of the structure. On the opposite end of the style spectrum, lighting sources – sometimes even cabling – are deliberately visible on the structure.

What kind of light effects are included in this category? The typical direct arrangement of overt light fittings in interiors leaves no margin for complicated meanings of light intentions. It is the composite structures that channel light into space in ambiguous, interesting or admirable ways that fall into this category of effects. Effects that indicate the contemplation of the designer about the visual meaning he/she wants to convey. Light sources that are concealed in the architecture produce effects with nominal descriptions such as 'cove lighting', 'niche lighting' or 'backlighting'. The reasons for the designer to introduce such 'solutions' into the space can be seen either as functional or stylistic. Functional because indirect light is usually diffuse and soft to the eyes of the user, for example – and thus treasured by lighting designers who wish to provide restful ambient – and stylistic because lighting solutions 'integrated' into the structure are less intrusive on the aesthetics and more 'minimalist', and therefore apply to specific styles and connotations.

Indirectly though, they are also structuralist in a sense because they define the source and the destination of light. All concealed light sources provoke questions about the existing space 'behind' the wall since light is notionally connected with 'the exterior'. But the issue of structure in light is not exhausted with concealed light; self-luminous elements in the space denote different things. They are usually acknowledged as efforts to 'dematerialise' the material as in the case of backlit walls or ceilings or architectural

volumes that can be circled by the observer, to be seen as 'light' or 'floating' instead of heavy, solid and concrete. To state that a backlit wall is a connotation of 'a space further behind' that enriches the experience of an interior might seem a conceit but not in architectural theory because it holds an example of another surface-and-light quality with implications for spatial understanding and organisation. The well-known treatise on literal and phenomenal transparency in architecture by Rowe and Slutzky (Rowe and Slutzky 1997) is a fine example of a visual law – being able to perceive more than one overlapping plane through a transparent material – seen also in the phenomenological way of transparency in organisation. Also Kepes' view of the term in *Language of Vision* defines the phenomenal aspect of transparency to perceive simultaneously different spatial locations as ambiguity rather than clarity (Porter 2004).

Linking light effects of this kind to their ascribed connotation – something which is mostly dependent on culture – is usually an evaluation performed by the observer and is eventually two steps after the formulation of the design intentions. If this structuralist contemplation of surfaces and sources is intentional on the designer's part and if the link of the specific light effects to this conceived 'structure' of active and passive is understood as such by them, then the principle of light effects depending on the understanding of a syntactic relationship of surface and source is relevant to the general concept of the thesis. One cannot decide this without being sure of the architectural intentions since a light effect is introduced to serve the architectural idea and very rarely to counteract it. The choice of backlighting an architectural volume, for example, cannot be understood if the volume is insignificant, barely noticed in the composition and unable to be observed by the user or to serve another purpose. On the contrary, one would expect a backlit volume or a self-luminous one to be dominant in the structural composition and observed from various points within the structure. Architectural intentions and lighting intentions are inevitably interwoven. Lighting design history does not offer any examples where such an intention has been documented or widely acknowledged as a stylistic trend – as is the case with transparency and the Modern Movement – and none can be presented here. The only way to be sure about the theoretical organisational link between surface and source is by examining the reasoning of designers in real projects.

Emerging principles



Figure 2.37: Examples of lighting integrated in architectural elements offering the visual effects discussed: visual ambiguity, organisational ambiguity of incident and emitting surface etc. Source: (top) LPA lighting design consultants, Nagasaki Memorial. (bottom) Zaha Hadid Architects, Rosenthal Centre of Contemporary Arts.

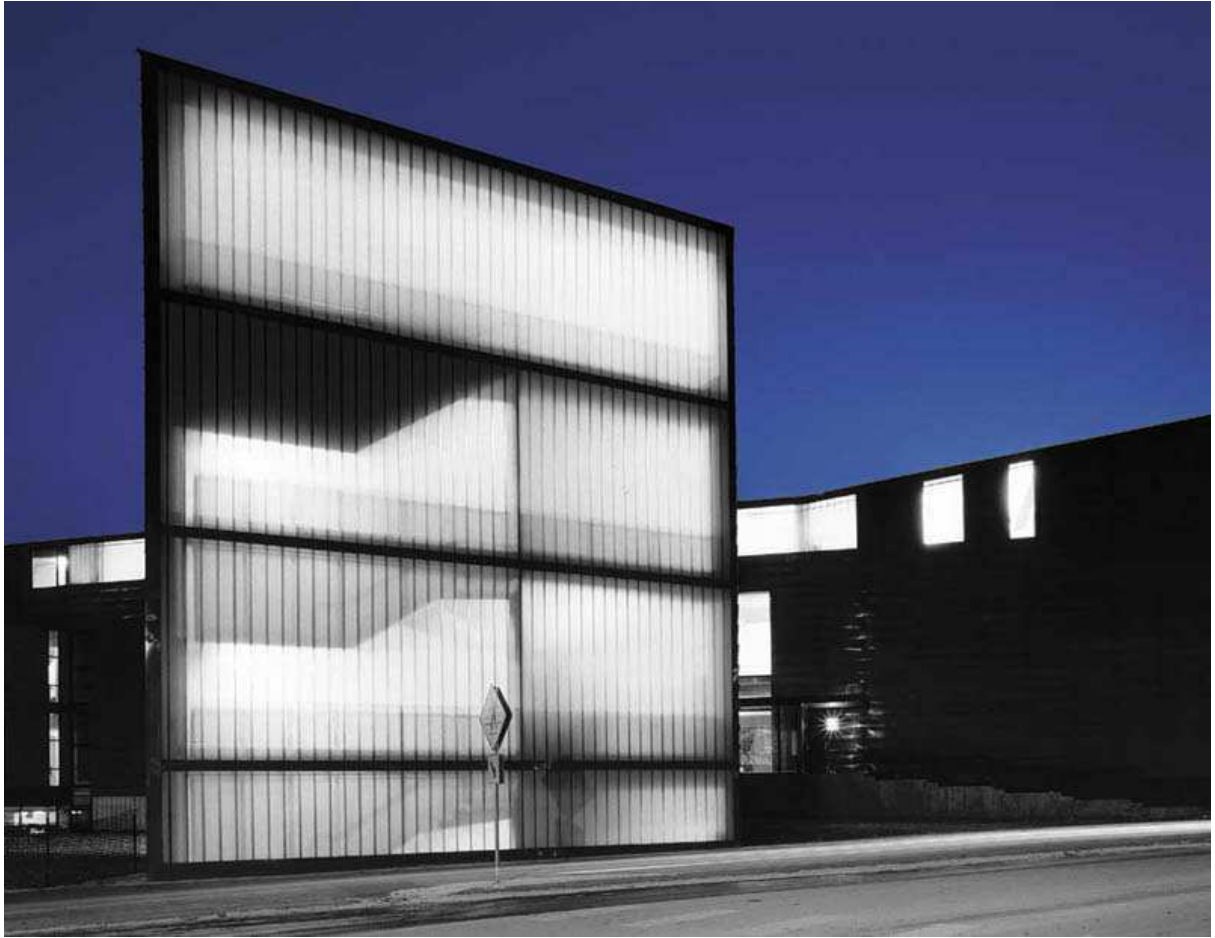


Figure 2.38: Another project by Steven Holl Architects where the surfaces give the impression of being self-luminous and the whole building resembles a lantern. Source: Steven Holl Architects, College of Architecture and Landscape Architecture, University of Minnesota, Minneapolis, MN. 1990–2002. (www.stevenholl.com)

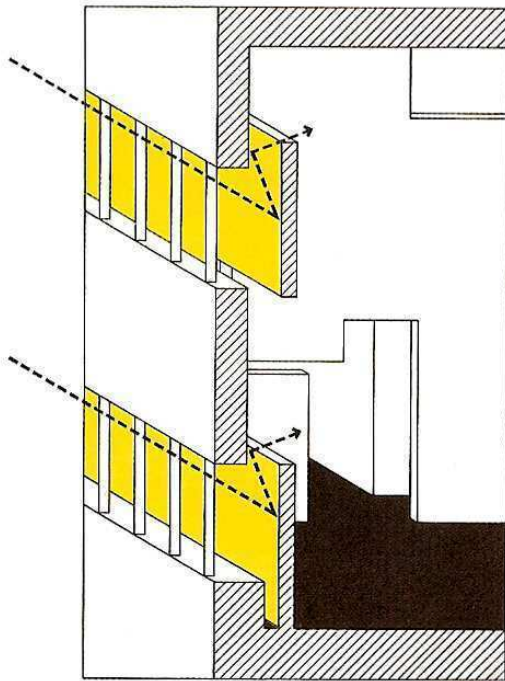


Figure 2.39: In this example the architectural configuration allows the surfaces to be mediums of inward light flow – natural or artificial. The idea ties in with the architectural concept too, which aimed for an indirect way of hinting at the presence of the exterior while being inside but without visual contact. Source: Steven Hall Architects, D. E. Shaw & Co. Office New York, NY. Completed 1992. Photographs Paul Warchol. (www.stevenholl.com)

Chapter 3

The method

3.1 Protocol analyses in design studies

'Design studies' is a discipline that emerged relatively recently and was initially aimed at finding systematic and rational ways of researching the difficult subject of design thinking, with the ultimate goal of incorporating its findings into effective design education and contributing to more effective design in the various disciplines. However, over the years design studies accounted for a series of work whose strategies interestingly evolved from rationalism to a more emancipatory approach that was gradually incorporated in the philosophic base of the method; subjectivity and creativity ended up influencing the design thinking as well as non-linear models (e.g. recursive thinking) of the whole process. It is worth following briefly the evolution of the method, through notable papers and research, to gradually justify the selection of some notions that support the present study, against notions met in the broad field of design studies that are rejected.

The preliminary rationalism that permeated the field, originating from cognitive psychology and behaviourism (Ericsson and Simon 1984), considered the subjects as problem-solving thinkers, thinking in a linear series of internal arguments, one following the other. The initial experiments aimed at discovering these arguments, by making the participants externalise the sequence of their thoughts while solving a problem, and recording their verbalisations of the thinking involved. The tactics included protocol analysis, namely recording the interviews, transcription and drawing of charts and tables that allowed reconstruction and overview of the subject's decisions while thinking aloud. It was also assumed that the data collected could be then analysed in an information-processing way, so the first applications of protocol analysis on design used information-processing theory. Omer Akin's studies (Akin 1986; Akin and Lin 1996) are a prominent example of applying information processing theories in design experiments. However, before long the general method of protocol analysis on 'thinking aloud' sessions received fierce criticism of the validity of externalising thoughts by prompting subjects to speak while solving a problem (Schön 1988; *Analysing Design Activity* 1996) (Cross, Christiaans, and Dorst 1996). It was claimed that designers did not in fact verbalise their entire thinking and any transcripts collected were forced verbalisations and not natural recordings of the designers' thinking, so the procedure was considered biased. Retrospective thinking¹ about problem-solving was proposed instead but design studies

¹ Retrospective thinking was a response to biased 'thinking aloud' criticism and attempted recording of the designers' narration of their own sequence of thoughts shortly after the completion of the process by providing them with their own material (e.g. sketches) as a reminder. In this way, designers would have to remember and explain their recent thinking rather than monitor their own thoughts consciously and try to simultaneously

The method

started to doubt the applicability of the current definition of 'problem' in design. The notion of 'ill-defined problem' was then introduced, which suggested that design problems were 'wicked problems' not sufficiently defined when posed and that the designer's subjective thinking offered a great deal in defining its parameters. At this point the linear logic of moving from A to B was set aside and more complicated thinking with more parameters on the designer's part was taken into consideration. Voices were then raised against the 'ill-defined problem' for it limited the scope of research by downgrading design to a mere problem, totally excluding the creative aspect from the design process. It considered design as a mere mechanistic process (Eastman 2001). In her notable work, Gabriella Goldschmidt set herself against measurement or any form of quantification of creativity (Goldschmidt 1991a), recognising in design thinking both a creative and a problem-solving attitude (Goldschmidt 1983). Charles Eastman also argued that each designer has his/her own conceptual structure in the formulation of both context and problem (Eastman 1999) and therefore moved the whole philosophical base of the method to the other extreme, that of a totally subjective approach.

To be more representative of the evolution of protocol analysis in design, placing the various stances on the design thinking process in a line ranging from the positivist paradigm of a single reality, to the emancipatory one of multiple realities, one gets more or less an arrangement as depicted in Figure 3.1. Suwa and Tversky have already made that classification by defining formal analysis and informal analysis as following:

Formal Analysis: The designer as an information processor. A rational problem - solver searching process through a solution space. Informal Analysis: The designer is constructing his/her own reality. His/her actions are reflective, responsive and opportunistic to the design situation. (*Suwa & Tversky, 1997*)

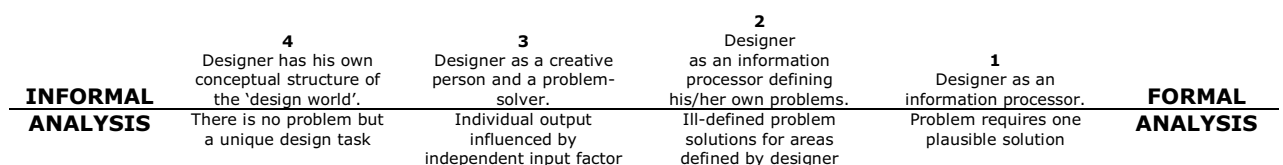


Figure 3.1: A continuum of research paradigms for protocol analyses of design studies strategies and hypotheses.

There has been enough criticism and valid argument about why 'formal analysis' is rather simplistic for understanding design thinking and extracting valid conclusions. Extending

externalise them. However, Schön states that designers are 'incapable of willingly accounting for their knowledge and when they do they are partial and often mistaken'. (Schön 1988) He then asks for other methods that will record the design process without the designers being conscious of it.

this discussion would be beyond the aims of this thesis, which is focused on one specific design field, lighting, and is not intent on generalising conclusions to other design disciplines. On the contrary, the aim here is to devise a generic method and try to specialise it in order to shed light on a special field of design. Apart from the criticism briefly mentioned above against positivist theories in protocol analyses, there are other reasons that render this approach unsuitable for studying lighting design thinking.

It is accepted *a priori* that there are some inherent qualities in the lighting design process that are not obvious, or parallel, to those in other design fields. Otherwise, the existing design theory would have long ago served as a sufficient paradigm for lighting. But instead, like every other design discipline, lighting has its own special subject. In the case of lighting that means dealing with an intangible non-material product before and after its conception/implementation: light. The speciality of conceiving, devising and implementing lighting design in a creative way has to follow, it is assumed, some generic rules of creativity and some special ones. The way a designer processes a lighting design scheme and uses creativity to compose it is a mental process (visual, verbal and manual) not much different from all other design tasks; but the actual envisaged light effects he/she has to use and compose together are special and endogenous to the field. Therefore it is accepted that designers' actions can be studied with similar tactics to the ones used in protocol analyses from design studies, but the analysis of designers' responses will not follow information-processing methods or any form of measurement or quantification. Although it is believed that each response is highly subjective and personalised, designers share common concepts in their background knowledge which can be described as 'types' rather than carriers as Schön describes. Along these lines, the present study can be said to be well disposed towards the constructivist paradigm supported by Schön when he refers to Nelson Goodman:

We make the worlds we live through a kind of instant perceptual problem solving. That takes the form of selective attention, grouping, boundary setting and naming. (Nelson Goodman cited in: Schön 1988)

In the same paper Schön proposes his constructive paradigm of designers being partial and subjective and understanding each design as 'unique' or a 'universe of one'. This stance introduces a fundamental problem though: how is one to explore design reasoning, if reasoning is excluded from the design situation? Moreover, how is one to produce useful generalisations out of this material if one accepts that there are no patterns or general rules? Schön's research paradigm lies in between No.3 and No.4 on the continuum of research paradigms in Figure 3.1 as it accepts the designer as a highly

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subjective participant who forms his/her own design world but also one who draws his/her concepts from previous acquired knowledge and experience reserves. Schön accepts the process of design as a dialectic between the designers' prestructuring of the world and the world as it is seen to be when examined in these terms (W. Hillier cited in: Schön 1988; Schön 1988).

3.2 The stages of the design process

Regardless of where they position their frame of thinking philosophically on the design process problem, researchers all seem to agree on the structure of the process. They also seem to itemise the design process in three basic stages which are the subject of three different research fields: background knowledge – design process – design product (Figure 3.2). With the term 'background knowledge' (Suwa and Tversky 1997), which is also termed 'prestructuring' (Schön 1988), 'design values'² (Lawson 2006ap. 159), or '*a priori* knowledge' (Rowe 1982) the built-in knowledge and collection of a designer's experiences is understood. Eastman refers to this with the more generic term of 'designer's conceptual world' – a world built up from the knowledge the designer has already gained³ (Eastman 2001). The designer approaches the design table with these concepts in mind, ready to apply them or evaluate them, given the design theme. Some researchers recognise a recursive exchange between this background knowledge and the subject at hand: knowledge helps the designer to formulate the design problem and is also shaped by the problem since by trying to solve it, new experience is added. Schön's definition of this background knowledge and hypothesis on how it influences the design process is the most interesting, but this will be discussed later on in this chapter because it is directly linked with the notion of a 'type', which is also proposed in the hypothesis of this thesis, as already seen in previous chapters.

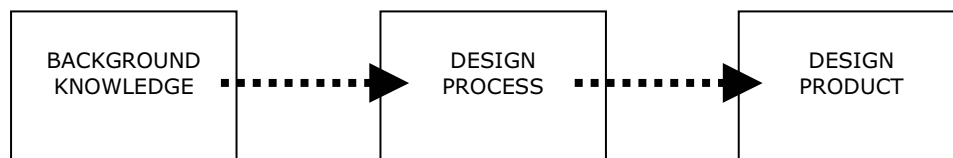


Figure 3.2: The timeline of design comprising the three different focus areas of design studies.

Most research on design studies engages with the second phase of design: the actual intellectual process of designing; or in other words what happens when the designer sits

² The author also characterises these as 'beliefs', 'attitudes', 'theories', 'guiding principles' or 'design philosophies' although he accepts that the last is probably too grand a title (Lawson 2006bp.159). Depending on the maturity of the design practice and the designer himself he admits that the coherence and concreteness of those principles may vary.

³ This knowledge is not valued as an inventory of solutions for similar design problems that designers can refer to, but as a toolbox that helps to gain quick understanding of a design situation and facilitates further knowledge of the subject through the new design situation.

at the table and starts reflecting on the current project. There is a considerable amount of exploration of the twofold nature of design thinking: sketches and words – how they complement each other, how they follow or feed argumentation and decision. Also some enquiry has been made into the 'heuristics' designers employ to deal with design situations. What types of heuristics are there and when are they employed? Other enquiries have dealt with the concept formation of projects. Based on the idea that each designer has a personal way of looking at things, this approach is concerned with how designers understand the project and the concepts they chose to focus on as problems that they define themselves. As already said, this part of the design process is the most researched one in the domain of design studies because it originated from what is now considered a simplistic logic of problem-solving.

The last and final part of design process is the actual 'product': a masterplan in the case of town planning, a building in architecture, a light fitting in industrial design, or a lighting scheme in lighting design. In the case of architecture it is quite clear that the products are the subjects of architectural criticism or architectural history and theory. In other design practices there is not always a corresponding discipline that deals with the criticism of the relevant design products. In any case, the history of each design domain accounts well for the most prominent creations. But after the products are completed and realised, they become in a sense detached from the intellectual process and their creators and they gain an identity of their own, at best as art objects and at worst as unsuccessful built-environment schemes. In most cases, criticism of the design products deals with their attributed final properties but also with the values they represent at concept stage. The reference to design values or philosophies links them back to their creators, the designers themselves. In the case of lighting design, however, even though the role designers' values play in the formation of lighting schemes is so vital, there is little indication of how those values enter into the design process and how designers choose to use them or ignore them, depending on the case.

As already mentioned, the main focus area in this research is the first component of the lighting design process, the 'background knowledge' as it would be briefly termed for the purposes of this thesis. It has to be said that the three stages defined above are distinct mental processes but not separated in time. This said, they do not necessarily follow the order depicted in Figure 3.1. An older project can influence a new brief and hence the design product can precede the design process. There is also the possibility that the influence of background knowledge and design thinking is interrelated and concurrent. Ideals can help process a case and they can also be shaped by it and therefore change the way the designer defines those ideals. For that reason it is argued that the presence

of lighting design values, and more specifically the understanding and use of light effects by designers, can be evident at the drawing board while interviewing lighting designers and thus can be somehow extracted and recorded. Also, because this background knowledge cannot be assessed sufficiently from the literature review, as has been demonstrated in Chapters 1–2, one has to turn to the actual lighting design process and try and infer those design values from observing the process itself, i.e. the lighting designers at work. This seems the only choice left since the third part of the lighting design process, the completed lighting schemes, cannot be validly assessed without theoretical and critical literature. The observation and recording of the designers in action will specifically try to record any form of design belief offered verbally by the designers while working, which will probably be in the form of a statement, or an expression, which denotes influence from the literature already examined. As is also maintained in the previous chapters, the desirable element of the total volume of background knowledge that needs to be elicited is how lighting designers understand and implement the light effects, and in this new context of the lighting design process how they select effects from the background knowledge and 'draw' them into the current scheme, which is unique each time. The nature of this part of knowledge has to be identified first. One cannot but agree that this background knowledge is a scheme that includes technical information learned in practice, theoretical information learned in institutional education, past experiences on projects, personal experiences before the beginning of professional life, inculcated indelible memories and much else. What part of this knowledge is the concept of light effects? Schön puts it this way: 'How are we to account for the cumulative generality of design knowledge and for the designer's capacity to generate new understandings in response to the uniqueness of a particular design situation?' As an answer to this he and William Porter (Porter 2004) offer a variant of the well-known notion of 'type' (Schön 1988). This notion in the specific context described by Schön is critical to the method of this study as it presents applicability for light effects and for that reason its definition will be extensive.

3.3 Experiential archetypes

Richard Kelly has described the definition of three types of light effects by using multiple examples of imagery. These are often considered as poetic because they introduce images used as metaphors for transmitting more information than the physical properties of a light effect, namely the sensation it creates in a certain surrounding environment. In those descriptions the environment is described alongside the light effect and both exist in the imagination as a duality: *'the follow spot on the modern stage, the shaft of the sunshine that warms the end of the valley, the candlelight on a face'* for 'focal glow', *'the uninterrupted light of a snowy morning in the open country, foglight at sea in a small boat, any art gallery with strip-lighted walls, translucent ceiling and white floor'* for 'ambient luminescence', *'sunlight on a fountain, rippling brook, a crystal chandelier in an 18th century ballroom'* for 'play of brilliants' (Kelly 1952). The modern stage is the space and the follow spot is the light. The small boat at sea is the space within another space and the foglight is the light. The fountain and its water is the space, the sunlight rays falling on it, the light. Admittedly those descriptions have the quality of poetry but despite, or because of that, they are powerful enough to be able to be envisaged in the mind of any reader or listener. Even though no one can tell for sure exactly what the fountain looks like, or how being in a small boat on the open sea might feel, or how small that small boat actually is, all readers can envisage the quality of light and if they were to reproduce it, let us say in a film, they would be sure they knew what it should look like. The space enclosing the light effect is not described in terms of dimensions or materials or any other objective property but the words 'fountain' and 'water' and 'sunray' are enough for an imaginary close-up in our mind's eye of the diffracted light sparkling on the drops. How exactly does that happen?

Schön and Porter attribute this to previous experiences and name those evoked images as 'experiential archetypes': the images of experienced objects or settings in the environment which emphasise not just only the way in which an image is characteristic of something (though it is), but its experiential significance, its emotive power and its universality (Schön 1988). Schön argues that those archetypes transcend particular cultures. As examples, Schön, who considers design in its generic sense and not specifically lighting design, suggests a cave, the experience of moving from light to dark and then to light again, a sheltering entrance leading to a higher room within, and a meandering path (Schön 1988). Of these four examples, the second incidentally refers to light. Even more abstract than the descriptions of Kelly, the passing from light to dark and then to light again does not imply the space form containing this experience, but is certainly an archetype of the kind described above as it is an experience all humans

have, whether they have taken the underground train between two stations, or have driven into a tunnel and out the other side. Other archetypes for lighting might be, for example, the Japanese 'shoji light': soft light diluted by the translucency of a material (like paper) and falling on absorbing surfaces such as wood as depicted in Tanizaki's classic book *In Praise of Shadows* (Tanizaki 1977). Even though it is a culture-specific image, the notion of soft diffuse light inserted into space can be experienced in various locations and instances even for persons who have not visited Japan. It is also very interesting that most people seem to connect close offset uplighting with the notion of a 'ghost' or unearthly depiction. Although this ghostly effect is closely related to lighting people's faces there are various instances where facades of buildings have been criticised as being 'ghostly' due to the harsh uplight effects that dominated their appearance. This is easily linked though to the examples of anthropomorphic metaphors that people give to building facades (Porter 2004), (Schön 1988) and others. Again, no one has really encountered ghosts and described their lit appearance but it seems interesting that the specific effect is evocative of the unearthly, the unnatural and the malignant. Another experiential archetype is the 'apocalyptic light' which stands for sudden strong light coming from a single source and almost blinding the spectators. The name might have symbolic and religious connotations and is often met as such in painting, but the archetype is also frequently used in science fiction films to produce suspense and excitement and easily manages to transmit those messages since almost all individuals have experienced this effect in much more ordinary instances. For example, someone who has woken up in the middle of the night, blindly gone to the kitchen and midway realised that he needs to switch on the electric light in order to find what he is after, will have certainly experienced the harshness of electric light when imposed on eyes adapted to scotopic vision hours previously. The same experience happens when one exits a dark cave into a sunbathed landscape without crossing a transitional area. The strength of this definition by Schön, 'experiential archetypes', lies in exactly this: the objective parts of the scene do not matter, the subjective experience of the user is concrete enough for all people to understand it and reconstruct it in their minds and abstract enough to allow adjustments to a new situation, in this instance a design case.

Arnheim also mentions the notion of experiential archetypes as recalling experience that helps the shaping of the percepts of 'now'. But he also states that this shaping would not be feasible if the current percepts did not possess categorical shapes in the first place (Arnheim 1969). Here the notion of type is not that of a strict category to which an object with defined characteristics can correspond, but a group of particulars full of meaning. This meaning constitutes the 'richness of imagery' (Schön 1988), which can therefore be applied to more than one idea. To continue Schön's thought, the archetypes

are particularly useful during the design process because they seem to function as generative images that supply major premises for chains of design reasoning (Schön 1988). They often appear in protocols as metaphors or as descriptions of imagery which prompt designers to decide to incorporate them or reject them. He also holds that when experiential archetypes make their appearance (in design reasoning), the designer often puts him/herself in the position of a person moving through spaces, feeling what it would be like to move in them. Those archetypes will be the main elements looked for in the processing of the following protocol analyses which follow here and will help test whether the classifications hypothesised in the previous chapters are valid as guides in current lighting design thinking or if they need to be reshaped under the light of these interviews with designers.

In the literature review of Chapter 2 there was extensive reference to various typologies composed and published in the past as informal theories or as personal design approaches. Those typologies were characteristic of something that provided the criteria for classification. Archetypes are characteristic of one or another quality and as such they are believed to be invoked during the design process. All that is meant to be seen in action is the collection of those archetypes evoked by designers and then the task of the researcher remains to interpret the characteristic element of each archetype. Are those the same as the ones clarified in the hypothesis?

3.4 Strategy, system of enquiry, tactics

The definition of the notion of types of lighting effects and the potential influence of experiential archetypes in lighting design reasoning has already given the reader the point of view or, more formally, the general research strategy that has been decided before embarking on the empirical part of this study. The study is situated within the constructivist paradigm and will try to test the hypothesis on the generic categories that facilitate the understanding and implementation of light effects in schemes by interviewing, recording and analysing lighting designers in action, as they devise lighting schemes. It is accepted that the five categories mentioned in the hypothesis will not be directly evident in the interview responses since for some designers the collection of attitudes, beliefs and values are confused and ill-formed, for others they are clearly structured and for yet others they may even constitute something approaching a theory of design (Lawson 2006c). More likely they will be present through these experiential archetypes, or less loaded notions such as metaphors. It is also very likely that the responses to a given task will be highly personalised, so the analysis will focus not on locating patterns or percentages of similar responses but will juxtapose sketches and verbal descriptions of solutions or ideas, wherever coherent arguments are made by single respondents as they reason, in a similar way to the examples mentioned briefly above from Gabriela Goldschmidt, Donald Schön, Peter Rowe and other researchers. It is believed that it will prove more fruitful to examine a single person's defence of design values that he or she deploys in a case study rather than trying to force generalisations out of personal ways of thinking such as design reasoning as supported by the constructivist paradigm. Then some interpretation will be involved to link those values together, if possible, into coherent schemes such as the ones hypothesised in the previous chapters, or into new schemes.

In the experimental workshops in which those designers took part, the intention was not to classify solutions to the most prominent design problems and therefore extract statistically the most common way of thinking around a design problem, but rather to focus on the interpretation of the single designer's output while trying to gain a better understanding. It can be said that these analyses were based on 'interpretation' as a method of analysis and on quoting of verbal data in comparison to design sketches as a proof of this understanding. In Goldschmidt's work, designers were given a small design task, the footprint of a library building, for which they were asked to decide on where to place the entrance (Goldschmidt 1991a). Goldschmidt was not interested in extracting the designers' way of thinking by considering the frequency of a specific solution, for example, if most decided to place the entrance in the middle of the footprint, which

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would be the most obvious approach, but was interested in how each derived his or her solution with the use of sketching. Likewise in this lighting design experiment the quest is not for the choice of effect but on the verbal support the designers use as justification for their choices, as this is expected to shed light on their lighting design ideas.

The following study is well disposed towards research paradigms such as Goldschmidt's, so at the level of tactics similar methods will be followed. Lighting designers will be given a small design task that will look as realistic as possible, and will be asked to do what they normally do as routine; provide concepts for it and mark them on the drawings as draft. The role of the interviewer will be to explain the project briefly and interfere only as a guide and for prompting dialogue when silence has lasted for more than one minute. So the form of interviews will be even more informal than open-ended questions as the designers will be expected to complete the tasks on their own and pursue their own way of doing things without interference from either the interviewer or a fellow designer. The latter contrasts with what normally occurs in design studios where more than one designer gathers around the concept table, but it is undeniably easier to follow individuals' reasoning through design when examined on their own rather than interacting with others and being influenced by them.

Linda Groat in her valuable resource book of architectural research methods, summarises the characteristics of qualitative analysis as presenting an emphasis on natural settings, focusing on interpretation and meaning, on how respondents make sense of their own circumstances and implementing multiple tactics in order to gain understanding (Groat and Wang 2002). According to these principles, the present research can be considered as implementing a qualitative method as it presents all of the above characteristics. The interviews were held in designers' offices based in London, the natural working environment of both the subjects and the researcher. The collection of data involved video recordings, transcripts of the verbal output of the designers and the use of their sketches, while the first part of the project, the forming of the hypothesis, is based on bibliographic and archival research. The use of multiple tactics is therefore evident. Finally, as has been mentioned, the analysis will not be based on any quantification of the data but on the subjective interpretation of the interviews with the final goal of understanding how the subjects (the designers) make sense of their own task.

In addition, other typical characteristics of this study are also met in the qualitative criteria list provided by Groat and other sources which confirm the compatibility of methods, tactics and the general philosophy of this study: the role of the researcher as a measurement device and the analysis through words (Groat and Wang 2002) (Miles and

The method

Huberman 1984). The interpretation of data has been carried out by the author and the analysis is based on words accessed through 'narrative devices' or 'visual displays'.

3.5 Visual data: sketches and design thinking

Before going on to describe the actual interviews it will be useful to explain the role of sketching as visual data for this study. Goldschmidt's example of a study on sketches published in the paper 'The dialectics of sketching' (Goldschmidt 1991b) and others are used as reference here not only for their qualitative approach to design studies but also for their use of sketches as valid material that reinforces the researcher's interpretation of the participants' reasoning. Of course the sketches in Goldschmidt's study are included as data since the research question is about sketching. This is not the case in this study about lighting effects, but still her paper is a good example of linking the verbal with the visual material for research purposes. In other studies originating from architectural research the use of sketches is also considered valuable data whether the method is phenomenological, interpretivist or ethnographic. In one case sketching was a technique used to extract from participants their ideas of their homes or to recall a space from memory and to try and describe it (Groat and Wang 2002).

Goldschmidt's research on design chose architecture as the specific design field to make the enquiry, which means that the use of sketches is inseparable from the contemplation of designing physical spaces, whose volumes are depicted with lines. In the case of lighting though, where designers contemplate not only the visible but also the non-material, the use of sketches might not at first seem similarly valuable. However, after taking into consideration the characteristics that sufficiently define a light effect (even if that includes only the technical quantitative part) one realises that although sketching in lighting design might not be a faithful representation of the effect intended, it is a sort of memo of the effect's identity and can provoke the imaging of the qualitative part. The sketch reminds the designer of the position of the fitting in space, the direction of light and sometimes the type and geometry of the source (linear, point or planar). In some cases when a reflector plays an important role in the manipulation of light towards a specific direction, for example, an asymmetric reflector, then that is always depicted in the sketching of the effect. Reversing this, the notes designers take of lighting effects they intend to use can act as recordings of their intentions and visual proofs of their descriptions of them. But apart from that, there is another reason why sketching is important data for this study.

Sketching is an abstract depiction of a more complete image which is fast and serves a specific function for design thinking. For that reason it includes only the necessary elements. In the case of a light effect in a given space it usually contains contours of the basic space elements, the relative position of the source or sources, and most important

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an imaginary or intended route of light travelling from surface to surface indicated as a vector at minimum or a fully described beam (Figure 3.3). For those reasons sketches have been used together with quotes from the designers' interviews to ground the definition of the light effects, as they expressed them.



Figure 3.3: light source under sofa furniture. A fast sketch of a common detail that contains only the necessary information to define the intended effect: the supporting object, the source and the route of light.

Chapter 4

Designing the case study.

4.1 Pilot study: the maze

It took gradual development in order to reach a complete and convincing case study, which the participant designers were asked to respond to as an ordinary lighting design task. The series of drawings presented here explain the thinking that took place during the design of the final case study and explain how the form of the space provided opportunities for the participants to think about and employ the principles discussed but without being constrained or channelled towards specific choices, which would make the study biased. Some important lessons were also learned from a first informal attempt which revealed the gaps and proved that much more time needed to be spent on designing a unique building.

The first attempt was unsuccessful but nonetheless useful. The participants – London-based friends with various engineering and architectural backgrounds and even fellow PhD students – were given an A4 sheet with a simplified plan of a maze-like space with sole annotations for the entry and exit points. These more or less predefined the route of the imaginary users. There were no dimensions on the drawing but the sense of scale could be assessed from the entrance and exit corridors and the door openings, which usually vary between 80cm and 110cm. Generally the configuration was a series of rectangular rooms, with the exception of one where a circular column was drawn and concentric walls wrapped around it. (Figure 4.1) There was some blank space at the side of the A4 sheet for the designers to draw sketches or annotate symbols.

The designers were also told that the maze-shaped space served as an exhibition space, which indicated the route the users had to follow, and that the ceiling height was approximately 3m. They were not given any other information about the space they were presented with, and they were told to design freely the lighting scheme they thought was most suitable. They were encouraged towards the informal and loose behaviour involved in games, in order to receive from them maximum freedom and spontaneity in the use of light effects, suitable for a creative task like this one. This was helped by the fact that the informal exercises were held away from an office environment, in cafés or restaurants, where the participants felt comfortable and relaxed. The group participating in the first pilot study comprised mainly architects, a few of whom were involved in the lighting design industry but still with little experience. There were also some engineers and an artist. All participants were familiar with technical drawings and representations of space as such. We therefore can assume that all participants had the same data at their disposal and the same simple tools: a pencil and an A4 page with the plan.

The material the interviewees provided (Appendix I) can be classified on four levels with regards to complexity of thinking. The simplest ones were provided by the engineers and a few of the architects who equipped the space with one or two types of ceiling-mounted fittings at equal distances trying to 'cover' all areas. Some chose larger fittings for relatively larger areas and some noted the difference between spots and diffuse lights, wide and narrow beam, or directional and fixed. Those participants clearly confined the variations to the limits of the technical characteristics of the fittings. A second group of interviewees decided to expand onto the walls and floor or only on the partition walls and place the light fittings there, for reasons that were unclear. Those people made sure that the regular arrays were preserved and all areas were 'covered' in a similar way to the previous group, but they employed more complex thinking in the sense that they thought of space holistically (not just the ceiling), but it was not again clear whether they understood the effect this position (wall and floor) has on the distribution of light in space and therefore the light effects they chose that way. The people who used only wall fittings followed strictly the walls geometry and chose ones that could be identified as 'focus walls' when first entering the rooms; therefore this small group considered the positions of the imaginary users inside the space and what they would see. This reveals that they also thought about the integration of fittings into the geometry of space. A third group of people, architects and an artist, decided that the space was monotonous and employed a large variety of effects, almost all different, providing a 'theme' for each room that they could make out from the schematic plan. They tried almost to give an identity to each space: a chandelier in one room and a ceiling with fibre optics in another are examples from these inputs. Those interviewees again could not justify their choices, nor is it obvious why they chose the specific effects for the specific rooms or corners, but a higher level of complexity of light effects was obviously achieved, varying in position, technical characteristics, arrangement and style. Finally, among the group of participants and their proposed schemes, there were two people who decided to ascribe an imaginary use to the space themselves and devised some happenings in each space first and only then decided on a relevant light effect. These are the most complete and complex schemes in terms of reasoning as there is a link with space, its possible use and the light effect that can serve both: the space and its use. For example, one architect named a corner 'isolation corner' and imagined a person standing there facing the wall. She decided to put a narrow beam spot bathing the user with eccentric light, similar to a stage spotlight. Her sketches verify the idea and conception (Appendix I). If we could talk in terms of observed patterns of decision-making, then the most characteristically repeated decision appearing in this exercise was that most of the designers chose to differentiate their light effects for the circular column area. They devised special

arrangements of fittings, or adjusted the array to follow the curves of the curved wall or closely offset to the column.

The pilot study resembled a game rather than a formal interview; however, some principles were kept as important tactics for a more formal set of interviews to take place subsequently. Generally speaking, there were things that worked and things that did not work so well and needed revision prior to the proper interviews. These concerned both the operation of the interviews and recording and the usefulness of the scheme for the research goals. It also provided the interviewer with a direct proof of the worth of guidelines, often mentioned in methodology writing, which seem trivial when read and extremely useful after experiencing the consequences. The set of A4 sheets with the sketches and mark-ups basically make up what remains as 'data' from that exercise. There was an informal discussion with the designers but no dialogue was recorded. Even though the sketches were quite informative as such, the lack of verbal support made the review process quite hard and the whole meaning of 'naming the light effects', describing them and applying them with reason, was lost. It became clear that any second attempt at recording designers' preferences and thinking should include the verbal as well as the visual: dialogue and sketches. So the need to record and transcribe the interviews with the designers was established from this experience, but the observation and comparison of the data as lighting solutions for a given space provided some other useful clues to the design of the space itself.

The exemplar and frequently cited study of Gabriella Goldschmidt, *The dialectics of sketching*, a research article publishing her work (Goldschmidt 1991), proved a major influence, a paradigm for the overall case study and interview design.¹ The type of design task chosen was also the result of this influence: to try to use an abstracted space depiction as a 'blank canvas' for the lighting designers to propose lighting schemes. This is mainly what the first pilot study relied on. However lighting designers were rightly puzzled by the simplistic depiction of space since the mental imagining of space is normally not part of a lighting designer's duty. If the space at hand is a written text then the lighting designer is more of an interpreter of this text than the writer himself. Interpretation requires a deep and full understanding of the text and its meaning, its literary style and its idiom. It seems that the simple space of a series of walls was not reducing excess information but was rather increasing it by raising uncertainty about the designer's intent. Qualitative data is often considered by researchers as rich material, but also as difficult to handle because of the surplus of information (Robson 1993); but in the

¹ Goldschmidt's study is explained in the previous chapter on design methods. How this study influenced the current research is also explained there.

case of architectural lighting design, it seems that the closer to the real world a project is, the easiest it becomes to uncover the unconventional thinking in it. The designer is much more likely to be conscious of a lighting decision when he/she has a lot of information about the space, rather than when presented with an abstract configuration. The fourth group of designers in the 'maze' study created more complex lighting schemes and were more inventive, as well as being able to justify their choices, because they imagined a fictional use for the space. None of the other designers understood the use of the space since there were no clues for them in the drawings; instead they set out to solve the design problem by following some self-imposed rules. In the interviews for the second case study that followed, several designers expressed their enjoyment of the developed case study they were given, which resembled 'a real project'. The way the first pilot study was designed included the same mistake often found in existing research literature: space was excluded as a parameter in the study and it was rather simplistically assumed that space configuration per se does not matter as long as there is 'something' there for designers to light. The designers will choose the effects and describe them and that description will give the expected answers in the research. As confirmed in the literature, though, light effects *are* defined through space characteristics and that definition provides the reasoning behind their choice and naming.

Learning from the first semi-formal pilot study, the main study of designers' use of light effects could not avoid using a meaningful space as a case study. Meaningful here has a double identity: that of a realistic space, a space of specific function and organisation, which designers could recognise, and that of a space as a synthesis of configurations that are directly linked with the hypothesis (as described in Chapter 2). The building would also need to be relatively small for the designers to be able to tackle it within one or two hours of interviews. Since the interviews were to take place after working hours in several practices, the brevity of the project presented would be welcomed by designers already tired from a day's work. Another desired quality for the imaginary building would be to include as many tasks as possible. Otherwise the designers would focus on providing just one type of task lighting, for example, retail lighting if it were a shop, or desk lighting if it were an office, and that would limit the choice of light effects available. The most common type of edifice that hosts all sorts of visual tasks in someone's life while remaining small in size is a house. A residential project could have a reading space for task lighting, a bedroom for low-key relaxing lighting, a kitchen for lighting food preparation tasks and decoration on the walls for vertical illumination to be necessary. It is also an ideal space for the study of possible movements inside the house, as a person living in a house is most likely to be in a variety of places, whereas a public building, for example, has mostly restricted routes for authorised people who consequently enjoy the

building from a limited number of vistas. So the choice of a house as a case study proved a solution covering many prerequisites. Before setting out to design the actual architectural envelope there was another thing to be decided: the surrounding environment. An urban environment by night is a visually complex one and a lighting designer would have to explore the neighbouring light levels before setting out to decide about the light levels of the project in question. Mainly for that reason it was decided to place the residence in the countryside with no direct view of neighbouring buildings.

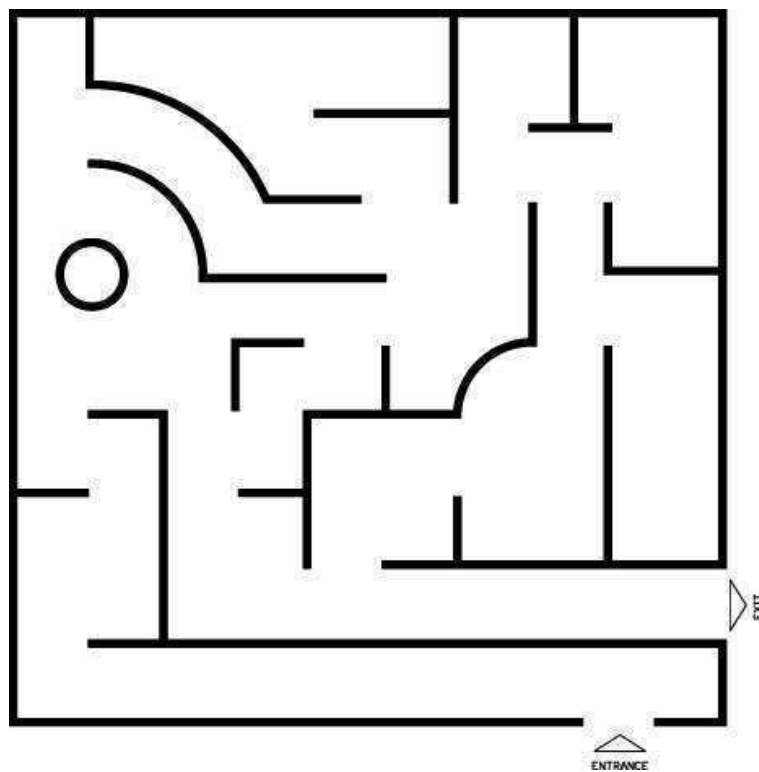


Figure 4.1: The maze-shaped space plan as it was given to participants during preliminary experiments.

4.2 Designing a more meaningful space

Having established the type of building, its size and organisational structure, the initial ideas for the design of the house were considered in relation to three main goals: to challenge the convention of ceiling and floor, to include various geometries in the architectural envelope, and to provide long views in the form of sequences of spaces in the vertical and in the horizontal, encouraging designers to address the issues of direction/position, geometry and illumination perspective while proposing light effects for the spaces.

Challenging the convention of ceiling and floor would mean breaking the '2.8m average floor height' rule that is often found in past lighting research experiments. (Flynn 1977; Flynn et al. 1979; Kato and Sekiguchi 2005; Protzman and Houser 2005) All these examples, coming from a different philosophical background that neither includes nor aims to involve 'space' as a parameter for lighting design, very commonly perform tests in conventional spaces where the 'overhead' light would mean two or three standardised solutions: in the case of Flynn's experiments, a series of downlights or translucent panels backlit with fluorescent tubes. The different philosophy in these approaches is also evident in the definition of light effects as graphical elements (spatial light patterns) (Flynn et al. 1975; Flynn 1977) communicating visual information similar to logos and signs. In Chapter 2 it was explained why this perception of light effects has completely stripped out the space parameter and a fact that every lighting designer knows by experience: that the distance and position between the sources and the surface are key factors for the visual result of light effects and have quite as much effect as the technical characteristics of the fixtures.

Consequently a more unexpectedly proportioned space, let us say a room 5m high, would raise problems of positioning the light fittings and after solving this, the problem of aiming their beams would arise.² The direction and position of the light source are basically a designer's answer to his/her own question (provided that he already knows the effect he is about to plan): where should the light be mounted and where should it aim? This thinking goes even further by asking oneself, what if there is space below the floor and so the floor-to-ceiling height is also extended beyond the average 2.8m? These problems and their potential incorporation to a viable structure are demonstrated in

² It is frequently mentioned that space is organised in such a way as to provide design problems for the subjects to solve but the real aim is not to deal with design as a problem-solving mechanism. The aim is to explore the types of effect and the reasoning behind them because it is more likely there will be more than one solution for each of the problems generated.

series of figures 4.2, 4.3 & 4.4. Should the light be positioned there? Is it appropriate? And if mounted there, should it aim upwards as is the most obvious answer? What are the consequences of that? Those problems mainly exist because the efficiency of light fittings is manufactured for the range of 1.5m to 3m with the exception of floodlights, which are designed to be more powerful to cover longer, mostly external, distances. But it is not just the tools' inefficiency that causes problems for the designer. It is also the space that allows the user to move inside it via unexpected routes and having various vistas that the designer has to predict and provide visual comfort or visual interest for. More accurately, he has to provide for anywhere users might turn their heads (Figure 4.4) and how glary or dark that area of space will look. Therefore the space and the possible moves of the users inside it are the primary factors that direct the position and aiming of the light fitting. A space that has different floor levels will provoke interesting reactions from the lighting designers, as it will stretch their inventiveness, and should provide interesting outcomes. Multiple interlocking levels are expected to oblige the designer to consider the views the user will enjoy while moving inside the house (Figure 4.5, Figure 4.6, Figure 4.7). Keeping that idea in mind, the design leads to a positioning of the house in a sloped landscape. Therefore the first element decided is that the structure should have interlocking volumes and somewhat unclear boundaries between the various levels. The floor of a mezzanine, for instance, could be an internal balcony, or just walls forming a niche in a double-height space. The user moving up and down those levels will gain more views of the interior than in the more common situation of having clearly defined and isolated rooms. Those ideas are illustrated in original sketches of the design process outlined in Figures 4.2–4.7.

The geometry of light is a design issue that stems from the question: what is the best light-form for this space? Should light be spread evenly or unevenly to create drama and fragmentation? And if one wants to allocate light beams evenly along a surface how can one achieve that, given the geometry of the surface? The importance of the geometry of light distribution in design is more evident if one looks into the way that light planning tools have evolved to cover this need – the need to envisage this non-material volume of light in space. Dialux software visualisation images demonstrated in Chapter 2 the program's feature of rendering the light distribution visible in a form of a coloured meshed blob, shaped according to the photometric data of the inserted fitting of course. A feature that did not exist in previous versions of the program and which aimed at facilitating the designers' visualisation. But apart from the software programs, the technical characteristics of fittings constantly change to provide versatility and accommodation to more complex geometries. LEDs the latest and most technologically advanced light sources now come in flexible strips and small sizes which allow for

accommodation in curvy forms, following the cold cathode made-to-measure tubes which for some time represented the best solution for curved geometries. Normally, examples from preconceived images are already in the designer's mind, and so they make the decision about lighting a rectangular space a choice from techniques already tested and trusted. However, if the existing surfaces that form the space are unconventional, the answer becomes a little more difficult. The designer can not recall images from memory and adapt them to the given space. This should force the designer to envisage the spherical luminous pattern of the light fitting casting its beam onto the 'strange' surface and the effects this will cause.

But geometry also refers to the geometry of the emitting sources. One might hold that the non-material distribution of light is almost spherical and therefore lighting design is already a process of adapting spherical, toroidal or various blob-shaped geometries into square volumes. Even though this is true, most of the light fittings are already engineered in production with lenses, reflectors and housings made to work best in rectangular spaces. 'Regular array' and 'spacing' between fittings are terms that have emerged from exactly that process in design: approximate adaptation of the spherical geometry of artificially produced light to fit in cubic volumes by placing multiple fittings overlapping their light distribution. Of course the choice of lamps and their form is also a step towards that thinking: a bare bulb creates a spherical distribution while a fluorescent tube a cylindrical one, which hopefully will cause some interesting reactions and comments during the design process. The house was designed in 2008 when OLED materials were not commercially available and therefore unlikely to be used as light sources for this residence. LED panels were also considered to be too extravagant for residential projects. Therefore, planar sources such as OLEDs or LED panels were excluded from the variety of design tools available. Future studies of a similar method might well include planar lighting sources at the designers' disposal.

The next parameter to be included is the integration of various geometries in the design of the house, other than conventional rectilinear walls and a generally square shape. Curves need to be introduced somehow. Preferably this would be done through a bold 'folded structure' (Figure 4.8), or in built-in furniture (Figure 4.9). However, this would make the design overcomplicated and difficult to process within the time limits of the interview. In addition, folded surfaces are not accessible to users and a way has to be found to integrate them in the house design, which needs to provide spaces for very specific functions, while retaining a small size. Introducing a curve in the ceiling and prompting the designers to think of light entering, or artificial light being added, could work (Figure 4.10); and this would solve these problems. If the curve unfolds in the

vertical instead of the horizontal, then all spaces would be accessible without compromising the required unconventional geometry of curved walls. This could also be adapted better to the 'levels' idea and the coming together of levels, hill slopes and curved walls is shown in the sketch of Figure 4.11.

The third type of problem raises the question: how can light lead the person, or how can light lead the user's eyes to the full extent of space around him?³ A sequence of open spaces can provide for that. This sequence of spaces can be either in the horizontal (Figure 4.12 and Figure 4.13) or in the vertical (Figure 4.14), or even the two together. Preliminary sketches demonstrate that thinking: a series of aligned rooms that can provide an opportunity or suitability for gradation of light levels. Similarly a high-ceilinged space can allow variation in the vertical. The sequence of spaces can be experienced while moving through them, when aligned (Figure 4.12) or when not aligned but placed along a compulsory route (Figure 4.15), or even a mixture of aligned and adjacent spaces (Figure 4.15, Figure 4.16).

The sketch (Figure 4.17) shows how the design evolved further. There is an overlapping of spaces that host different functions (hall, living room, kitchen etc.) and a unifying corridor that provides a compulsory route through those spaces but is also a long element in itself and provides a strong view in the horizontal on its own (dashed line along hatched corridor). The structure of the house was further clarified with these two elements and the beginning of allocation of space functions and their sequence. The curved walls element is not present in the current sketch but the rooms are altered to form wedge shapes instead of square, which introduces the irregularity. The specific sketch also does not show the interlocking of volumes on the vertical but it was already decided that the ground floor was going to host the social functions and a higher level was going to be used for the more private activities, as is often found in two-level residences.

Combining all the ideas explored above, the form of the building followed an evolution in design as depicted in the annotated sketches: a sequence of spaces arranged on two levels placed on a slope, which provided the inclination necessary for this variation in level. This had to be visible from the inside, so a unifying double-height element had to

³ The study later proved that the above questions are not two expressions of the same concern in lighting but rather two similar but distinct types of problem. A sequence of spaces can be visible but not necessarily accessible. In Edwards's interview, the interviewee called the first case 'visual access', which is different from 'physical access'. This will be further analysed later on in the narrative of this research study. At the design stage the space was aiming at addressing the generalised notion of 'experience' or the anticipation of experiencing a sequence of spaces, and light addressing that.

be introduced. The curved element was introduced with the outer walls while turning the shapes of the sequential square rooms into wedges. As soon as the basic relationship of spaces was established, the practicalities of a realistic-looking drawing were considered. Those practicalities included the staircase, the allocation of bathrooms and the functionality of the spaces, much as it happens in a real design of a residence by architects. One of the main objectives was that the house should look like a real project so that designers could feel familiar with it and envisage people living in it as they set out to fulfil their task of lighting it.

Functional issues normally considered in a residential project worked against some of the formative principles in favour of this necessary realism and vice versa: some realism was compromised in favour of the basic design principles. For example the multi-level aspect was inconsistent with the size of the project. Not many spaces could be piled on top of each other to form multiple levels because this would result in a residence too large to plan light for in the one hour that the interviews were expected to last. So the bedroom and bathroom facilities were the only two spaces that were moved to the upper level, forming a relatively small square volume visible inside the double-height space of the living room. However, a view of the bedroom from the ground floor was possible and the idea of an ambiguous ceiling/floor level was achieved with this mezzanine. Equally, the impracticality of having a single WC in a house would mean that any guests would have to go up the staircase to the mezzanine, cross the bedroom and find the bathroom. Many designers were to notice this as a real functional problem in the interviews that followed, but the realism of the house planning had to give way to the size issue since a second WC risked overwhelming the interviewees and making them reluctant to participate wholeheartedly in such a large project.

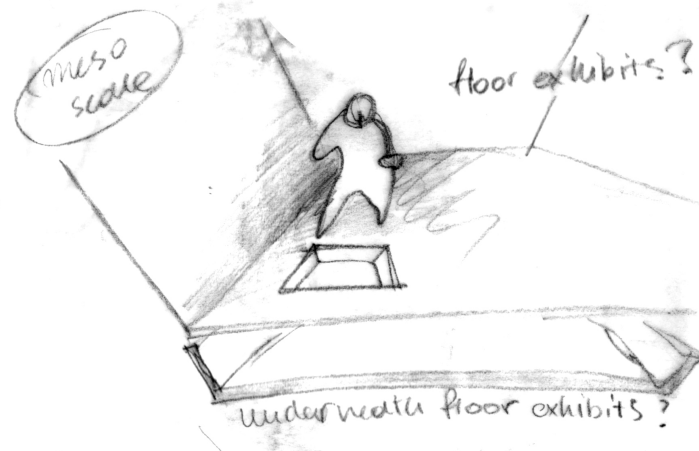


Figure 4.2: Sketches by the author from the design development stage. Turning the visual interest in various directions. Here, the idea of having a second floor under the floor.

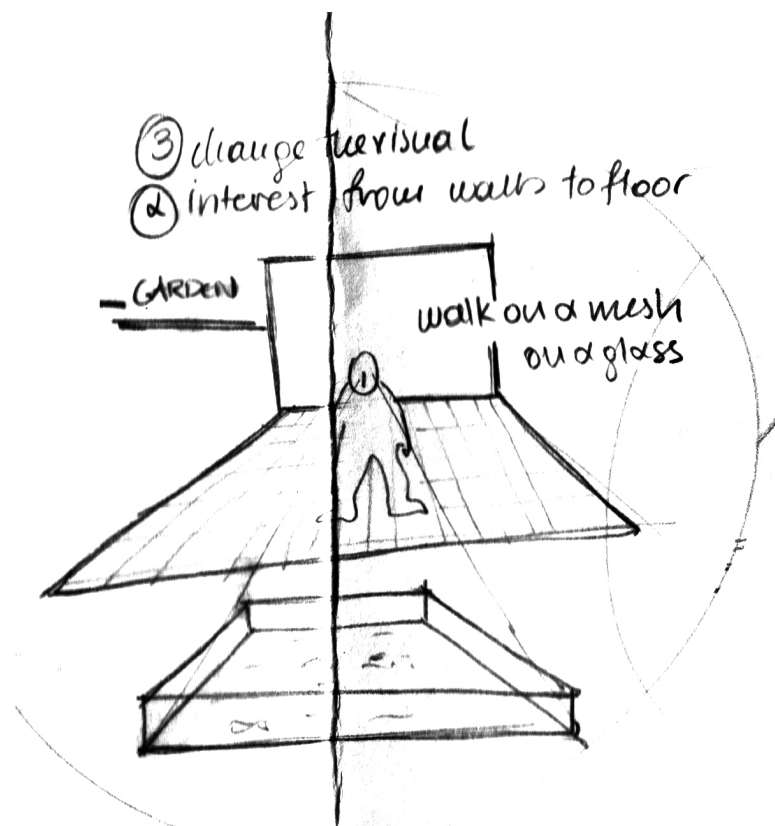


Figure 4.3: Sketches by the author from the design development stage. The idea of turning the floor transparent so that the users can see the second floor underneath.

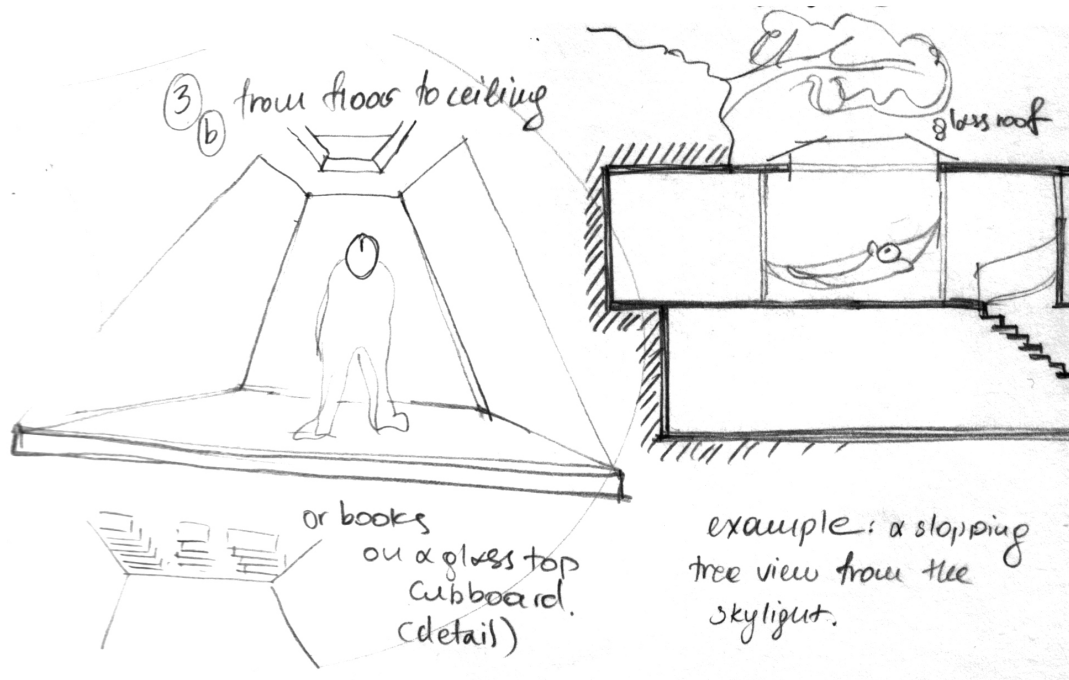


Figure 4.4: Sketches by the author from the design development stage. Having a view through the ceiling could mean having a skylight (left) or a skylight right underneath a tree (right).

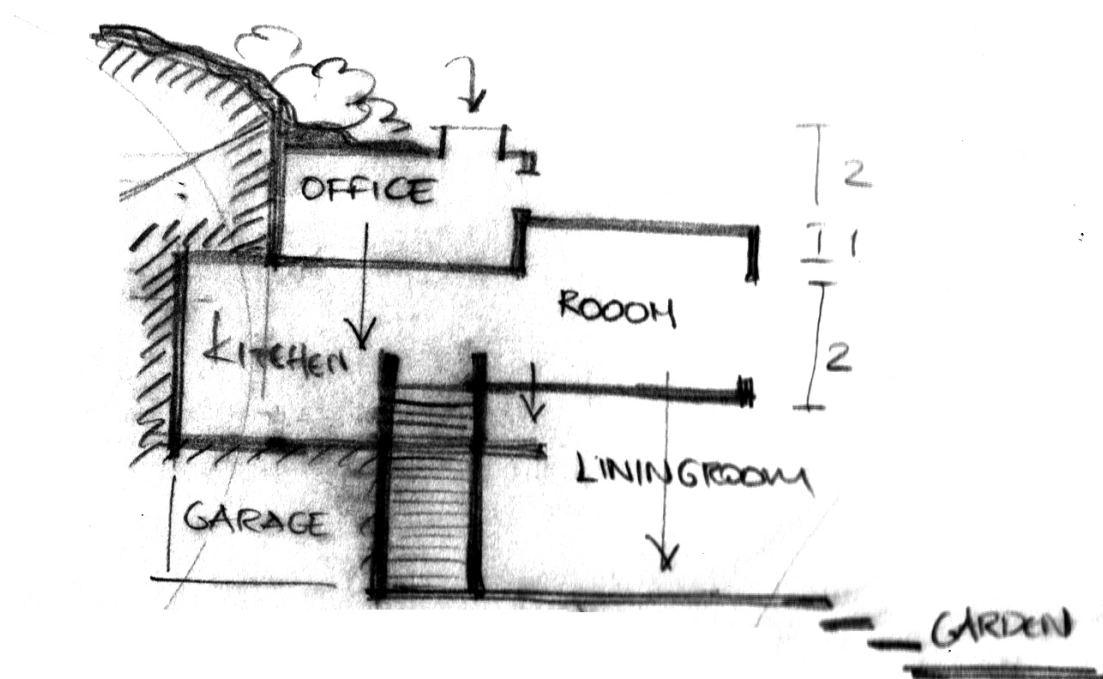


Figure 4.5: Sketches by the author from the design development stage. The house can be developed in interlocking levels so that the views through the roof or through the floor can be handled more easily.

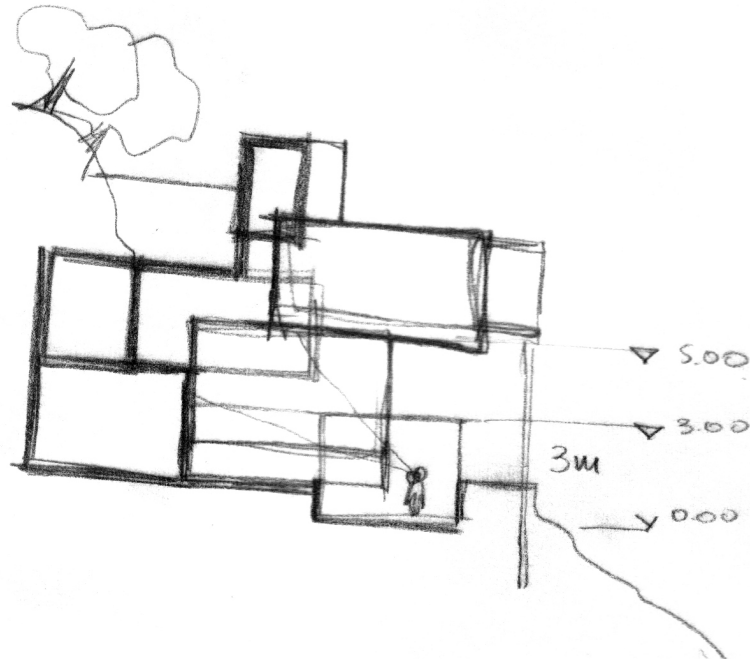


Figure 4.6: Sketches by the author from the design development stage. Testing the interlocking levels with rough calculations of minimum ceiling heights.

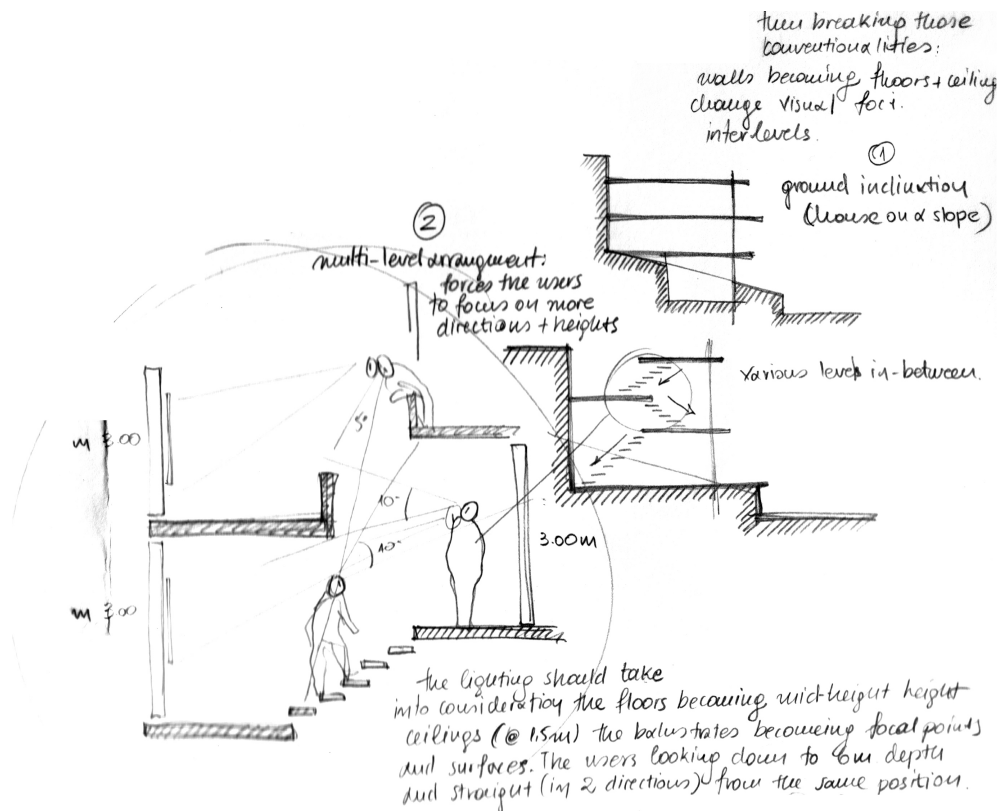


Figure 4.7: Sketches by the author from the design development stage. 1.5m seem to be enough for connecting stairs.

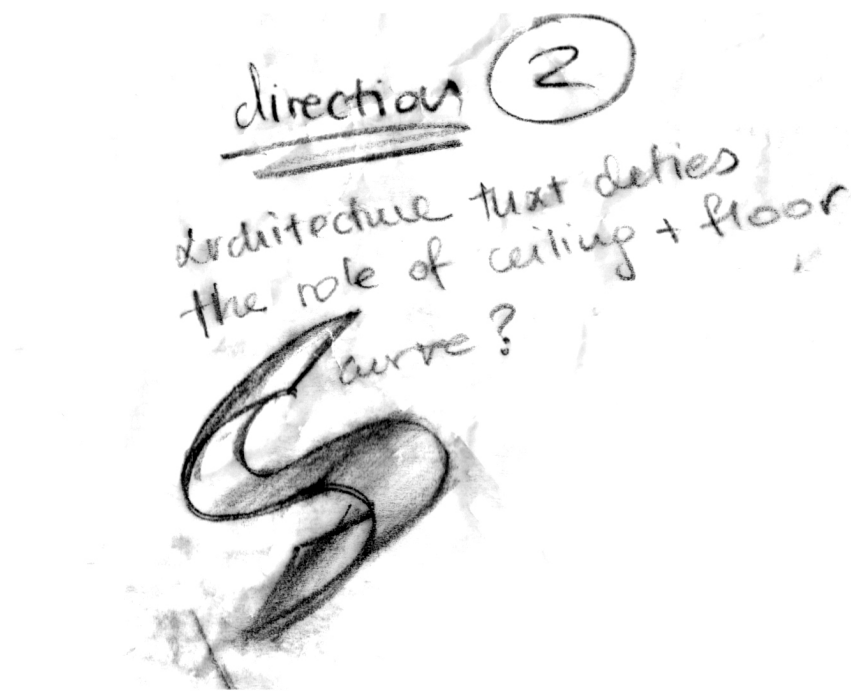


Figure 4.8: Sketches by the author from the development stage. A bold form that introduces both a curved geometry and a structure where floors, walls and ceiling become one.

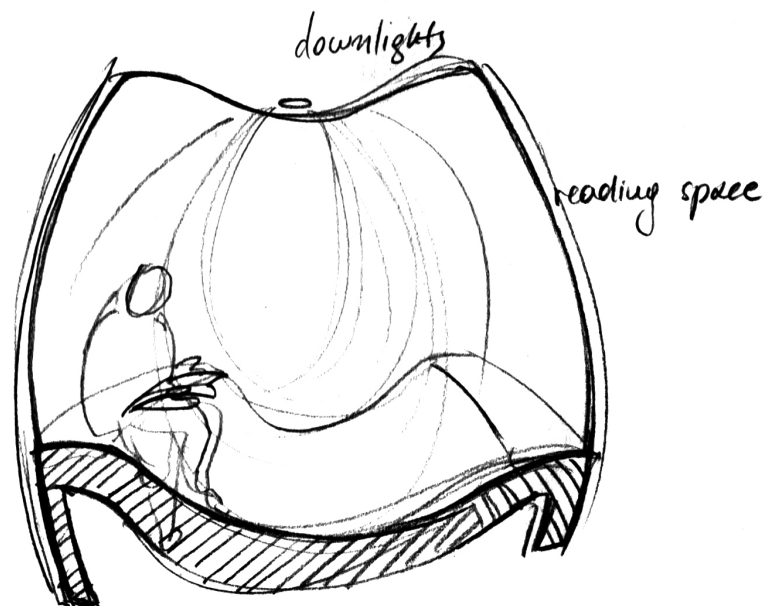


Figure 4.9: Sketches by the author from the design development stage. Or the floor can be curved together with the ceiling in special built-in furniture such as this cocoon reading space.

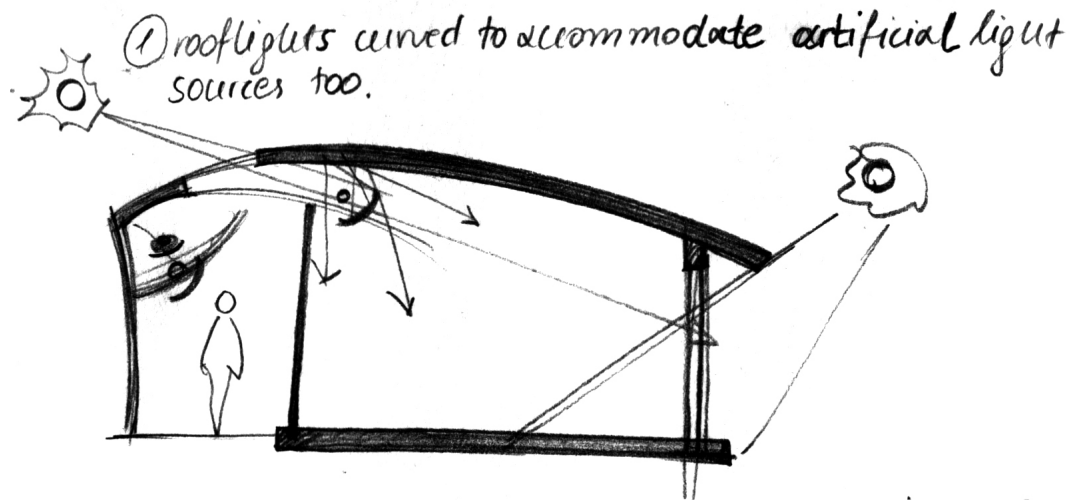


Figure 4.10: Sketches by the author from the design development stage. The ceilings can be curved to allow designers to take novel design decisions concerning the best light accommodation, but also this can include daylight provision.

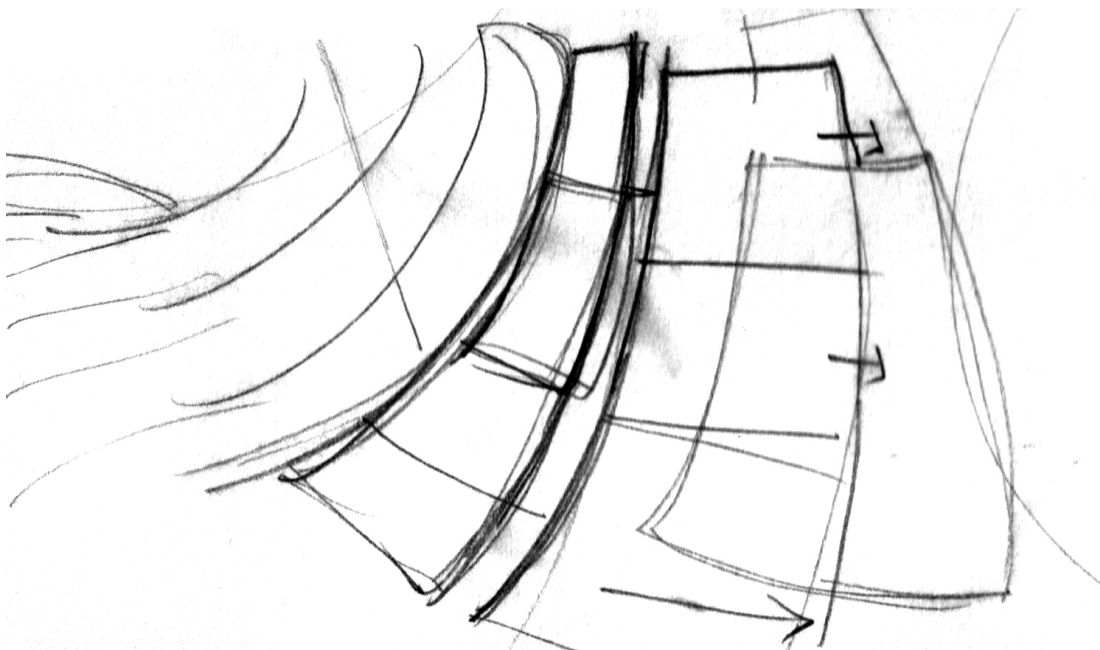


Figure 4.11: Sketches by the author from the design development stage. The external walls can bend to follow the hill slopes organically.

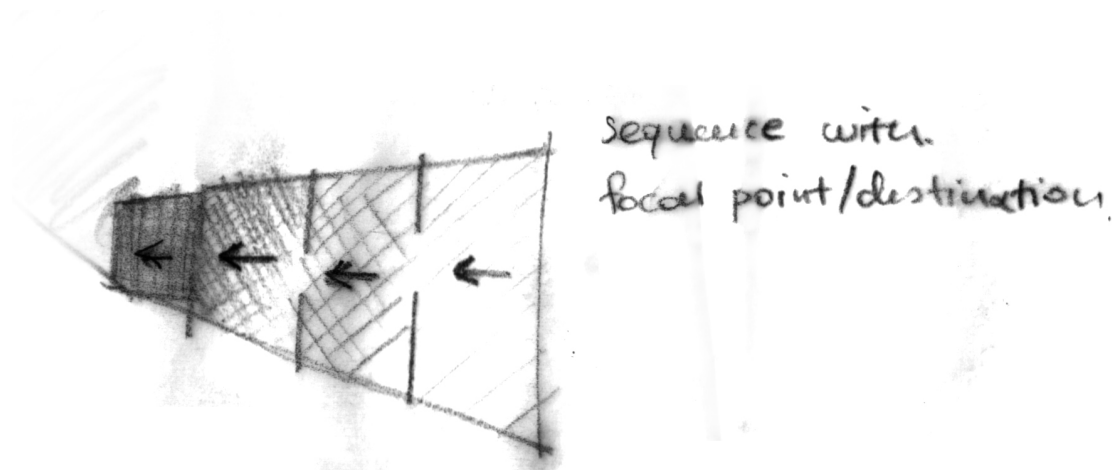


Figure 4.12: Sketches by the author from the development stage. A sequence of spaces (here in plan) can end up at a focal point, a room of special interest.

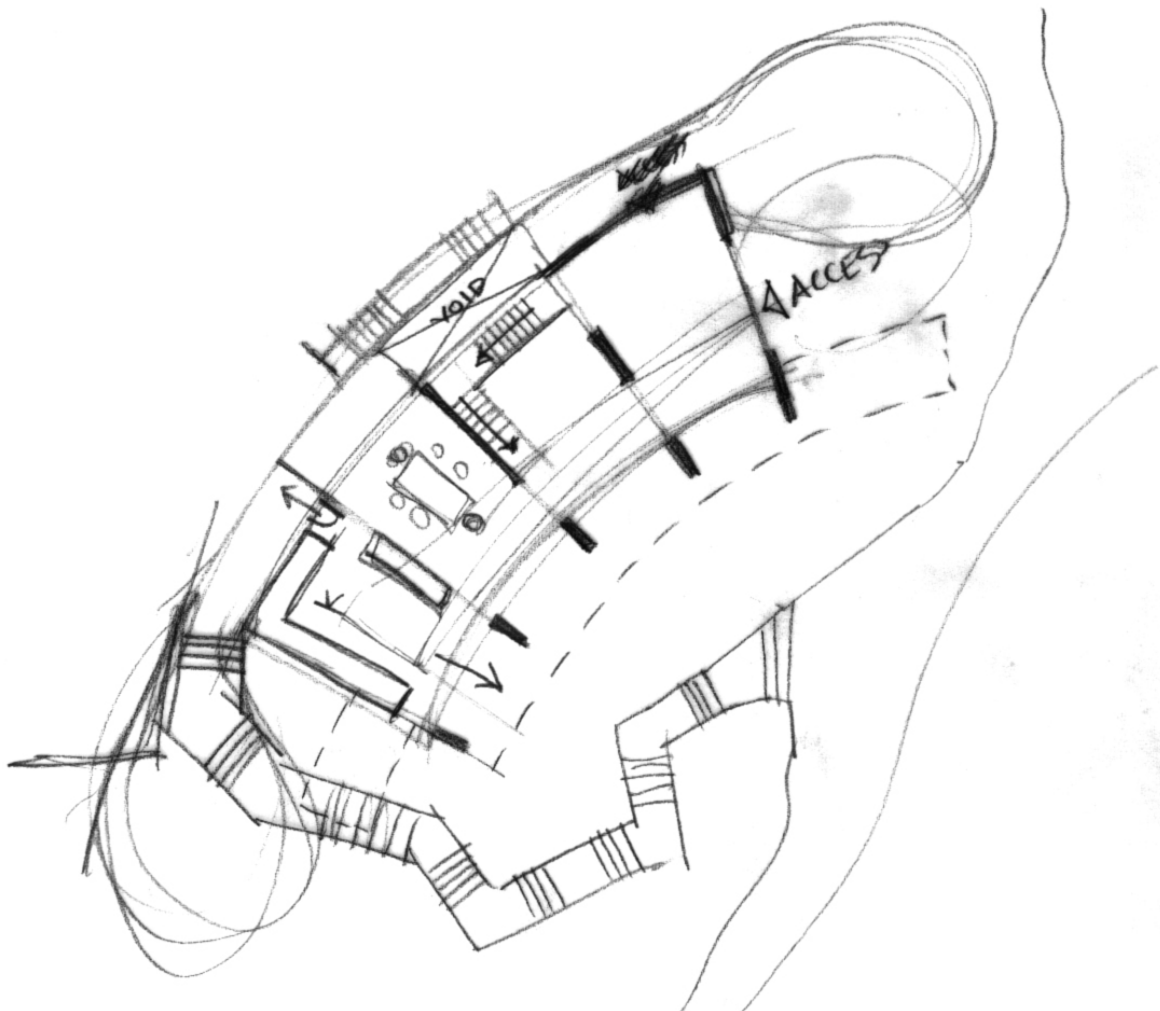


Figure 4.13: Sketches by the author from the development stage. A plan which comprises curved geometry, three lines of movement (back corridor, room sequence and front yard), nomination of room functions (kitchen, dining, staircase and other) and external landscape with levels connected by stepped routes.

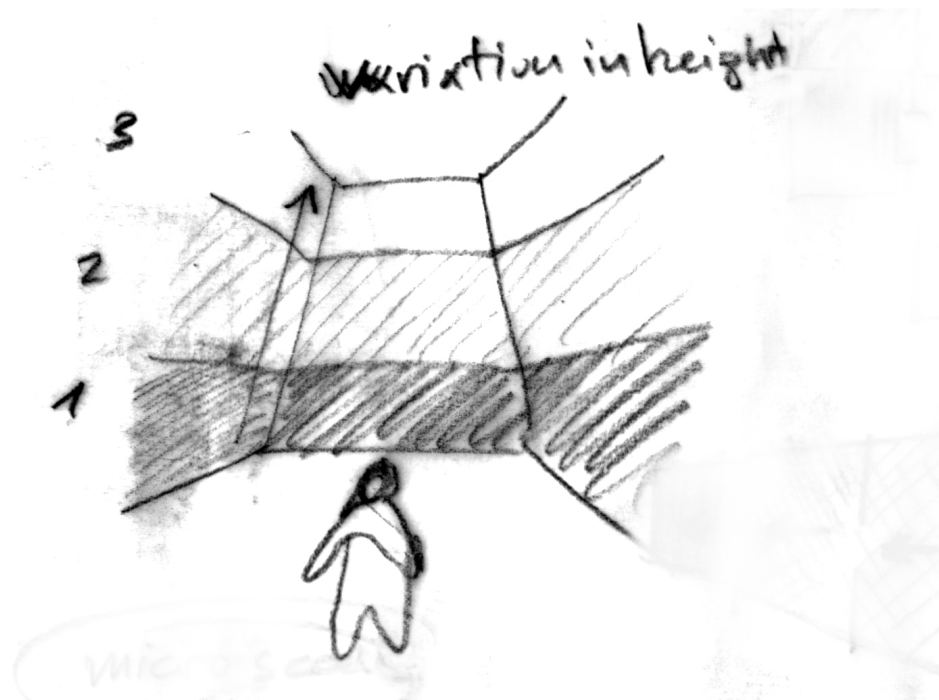


Figure 4.14: Sketches by the author from the development stage. Perspective can be enhanced on the vertical. This unavoidably creates a gradation of natural light.

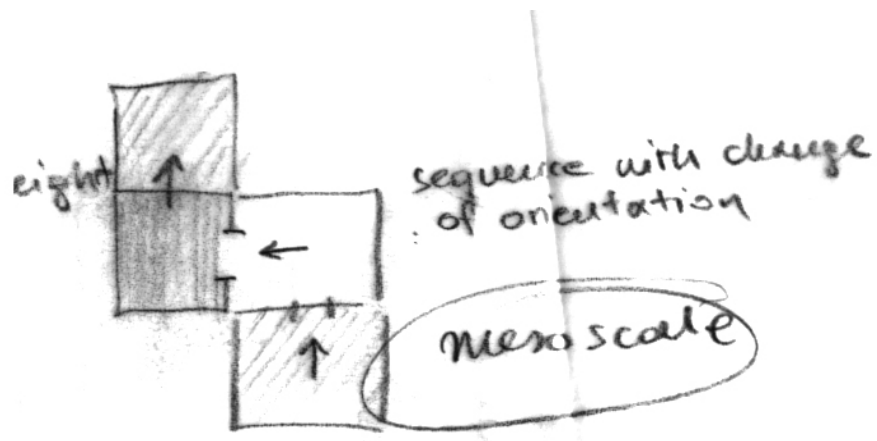


Figure 4.15: Sketches by the author from the development stage. Continuing from Figure 14 this does not have to be in a linear arrangement as it would be too obvious.

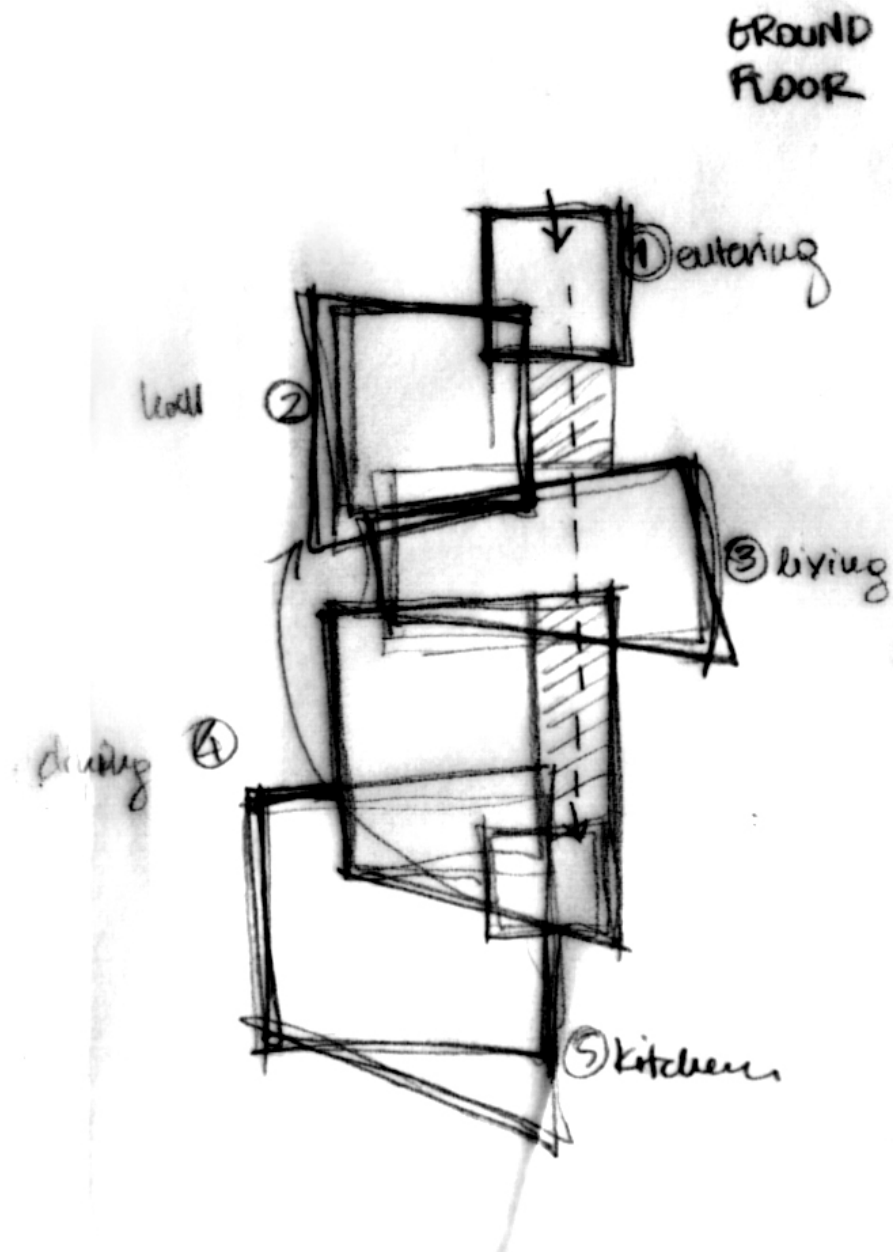


Figure 4.16: Sketches by the author from the development stage. Interlocking volumes can still keep a route which will provide strong perspective.

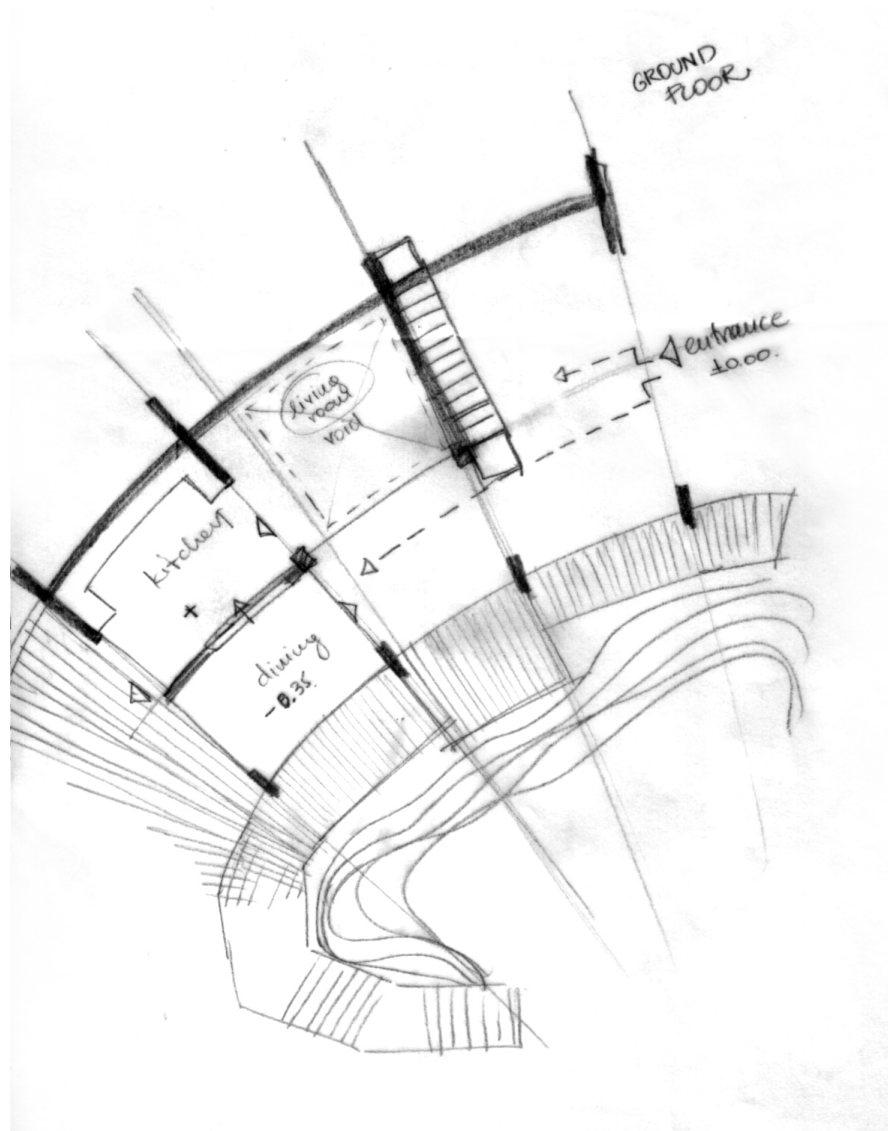


Figure 4.17: Sketches by the author from the development stage.
Plan sketch close to the final design, incorporating all elements.

4.3 The final design

The final design of the residence as depicted in the set of line drawings (Appendix II) is more in the shape of a cross (Figure 4.18). The core of the building is a double-height space of 5m in total (the living space, library seating and workspace), with lower volumes of 4m high (entrance hall and kitchen) attached on the sides. A second crossing of the main volume is made by the long tunnel-like corridor extending from both sides as entry and exit. The corridor cuts the main volume in two and separates the living space from the office space. It also provides evident entrance and exit into and out of the house. The outer wall of the office space was made a strong curve all the way up to the 5m ceiling. The bedroom and bathroom were placed in a clear cube half inserted into the double height space of the living room and half protruding from the other side resulting in a secondary tunnel-like underpass in the external spaces. The overhanging bedroom volume divides the double height space into two parts, and the empty part – directly underneath the cube – is further recessed into the ground by two steps, providing an extra differentiation level. The same thing was done for the office space. So the three conceptual ideas were served in various ways by this design. Firstly, the double height space and the bedroom volume within it provided the 'second ceiling' and the situation of a very high final ceiling surface, plus the recessed areas of the workspace and the library gave another opportunity for change of levels and solved the technical problem of a low ceiling over the library seating (Figure 4.19).

Generally speaking the style of the house is a typical modern open-plan arrangement with rectangular spaces but the introduction of a strong curved wall in the office space, even though not directly related to the overall style, aimed at addressing the issue of geometry and provoking the designers to chose a 'solution' for it. So, secondly, this curved surface along with other minor ones allowed designers to experiment with lighting effects that would respond to this geometry. Secondary curved forms were also created elsewhere in the house: curved niches in the thick structural wall of the kitchen and curved walls in the bathroom cubicle for example. Also the shape of the staircase itself is that of a spiral ribbon climbing to the mezzanine level and linking the bedroom with a bridge. (Figure 4.20) The crown of the staircase is a tubular ending on the flat roof.

Finally, the idea of a strong perspective and a series of spaces is realised by arranging three rooms along one axis of the cross-shaped plan: the entrance hall, the library and the kitchen. The main element that was purposely shaped as a tunnel was the long 3m high corridor that crosses again in parallel, further down (Figure 4.21). The view that one gets when entering the house was the one most aimed at provoking in the designers a

feeling of a strong perspective. However, this was partially spoiled with the corridor wall being interrupted midway to serve the open-plan idea of the living room. For that reason a trace of its wall is followed by a series of densely arranged panels. This provides visibility across the house plan but also obstructs accessing the rooms vertically. When those panels are viewed from the entrance, they give an impression of 'solidity' that preserves the notion of a tunnel-corridor crossing through.

There are of course the remaining two ideas of 'abstraction' and 'syntax' as discussed in Chapter 2. Since those two design principles are mainly organisational they were not addressed in material terms – i.e. any space configuration that would create opportunities for the designers – but the design of the house being so complicated is expected to provide a platform for consideration on direct and indirect sources, brightness and contrast relationship of the illuminated surfaces. The architectural style selected is also an influence on such connotations. It is believed that if the design were more minimal or vernacular, the designers, wanting to reveal the architecture, would choose more uniform treatments (effects duplicated around the house), or they would insist on accentuate the decoration elements correspondingly. Besides, modernism as an architectural style is reminiscent of Abstraction and Constructivism since all these ideas were developed in similar periods and are often included within the Modernism literature. So designers who will identify the particular style are also the ones more likely to have read about Abstraction and Constructivism as they were expressed in the disciplines of architecture and design.

The external areas, the garden and surrounding landscape, were designed along the same lines as the tunnel-corridor and the long parallel structural wall, continued on the outside. Those two elements divided the external area into three parts, namely front, middle and back yards, and these were purposely designed to extend the views further with large openings offering that communication. These large openings at strategic points, the kitchen on one side and the workspace on the other, provided the long views aimed for. The three yards could not remain isolated, as this would prove impractical and unrealistic, so openings provided communication between them. These were code-named 'portals'. When standing at these portals one could enjoy some extra views of the neighbouring yards and hence more vista points were added in the project.

The design of the house proved to be complicated, in the sense that every little corner had to be explained to the designers who took part in the workshop. The particularities of the space were not easily grasped from the briefing and set of drawings, no matter how detailed they were. It was also one of the methodology's objectives that all participants

were presented with the same set of information, and to make sure that they all understood the project in the same way, to protect objectivity. For this reason an animated three-dimensional model was built with the fast Sketch Up modelling tool. This software platform allows the model to be viewed from a series of pre-selected viewpoints. These scenes can be set and saved in a sequence that can be re-visited at any time of the demonstration. In addition, users can scroll inside the 3D space if they want a slightly altered view of the space from the preset one. This tool proved to be very useful during the actual process of briefing the participants and afterwards in the design process. The designers themselves confirmed that the 3D model helped them a lot in the quick understanding of the spaces and this facilitated the process overall. It also proved effective in ensuring that all designers obtained the same impression of the house project and from specific preset viewpoints that left no doubts that the internal mind-image⁴ of the structure envisaged was the same for all of them.

⁴ The internal procedure that takes place in the mind of a designer, and the difficulty of externalising it, is very often the debated issue in the protocol analysis techniques by which this study is inspired. (The method itself and its influences, shortcomings and advantages have been explained in Chapter 3).

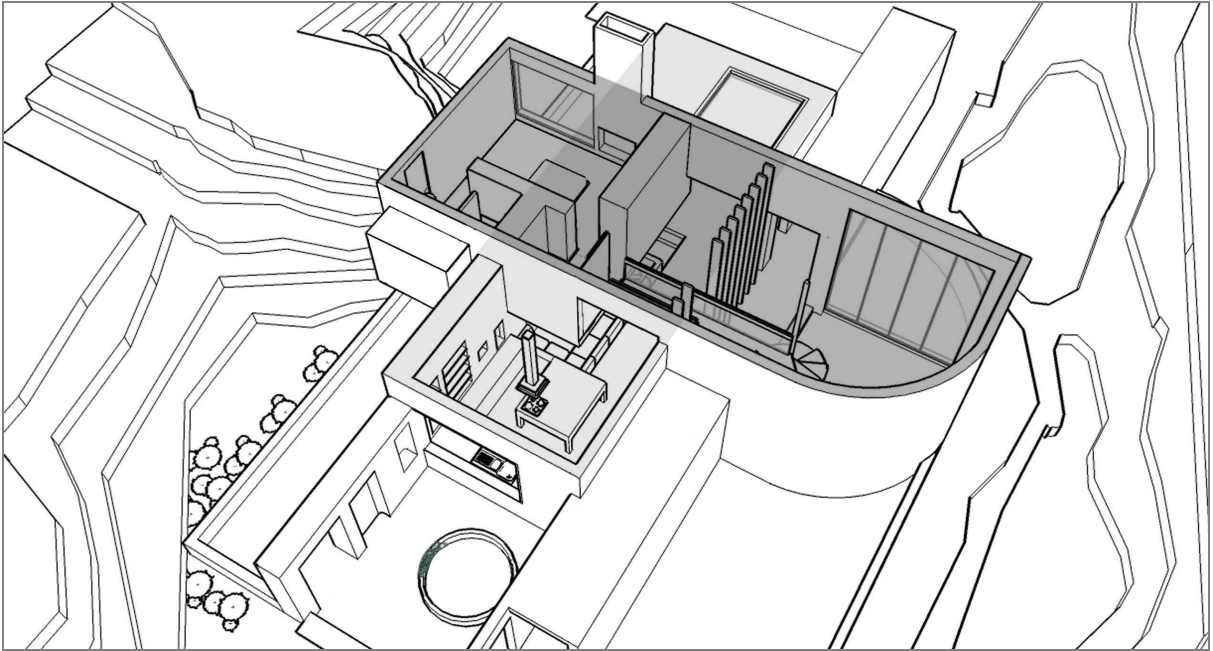


Figure 4.18: The final design of the house in 3D model representation. The two interlocking volumes are highlighted.

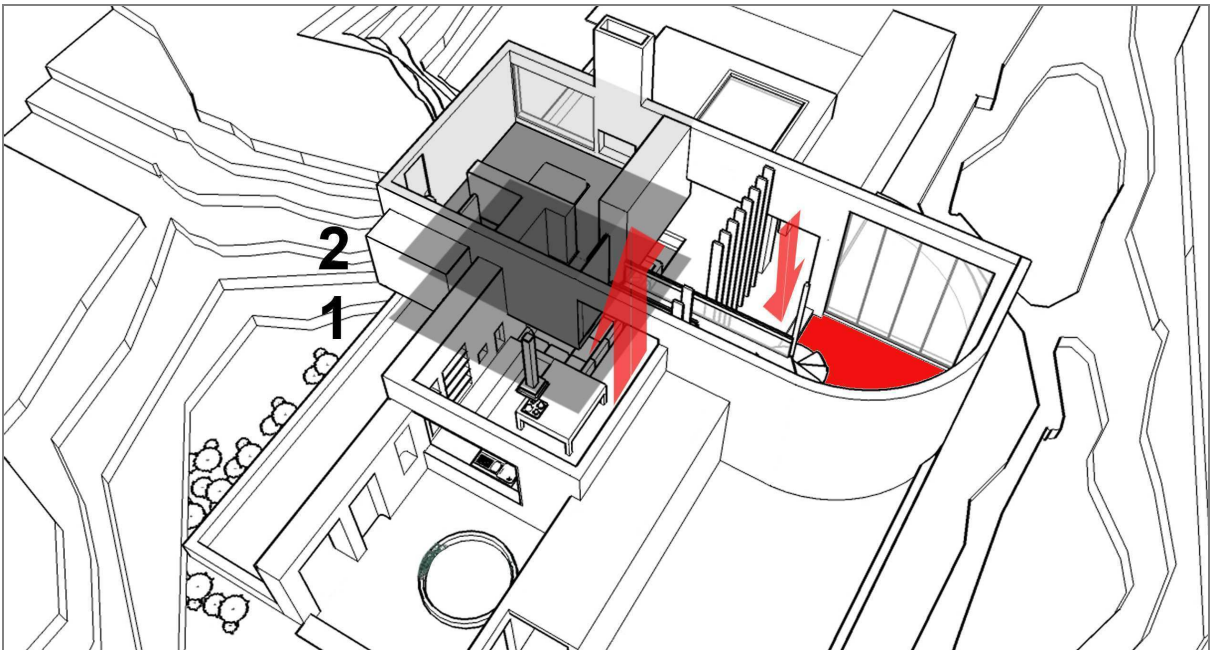


Figure 4.19: Addressing the concept of levels: the mezzanine (2) and the ground floor (1) ceilings. The recessed floor two steps down. All marked in grey/red colour.

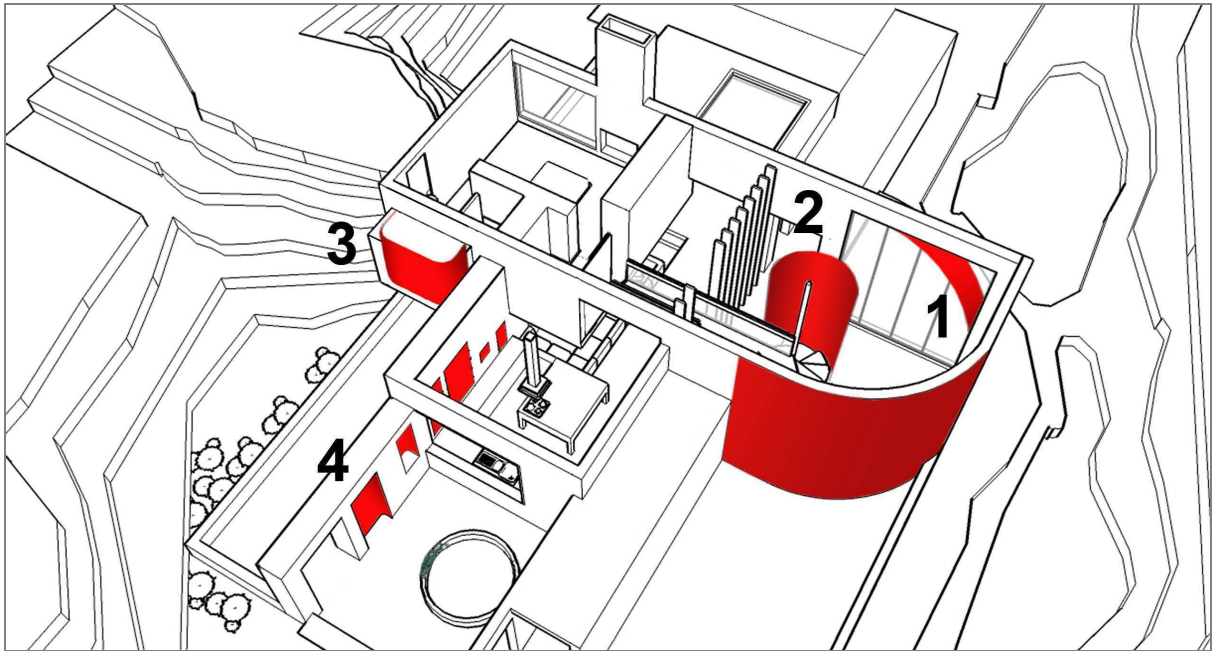


Figure 4.20: Addressing various formal geometries. (1) Curved wall at workspace. (2) Curved stair balustrade. (3) Protruding shower cubicle. (4) Cured niches.

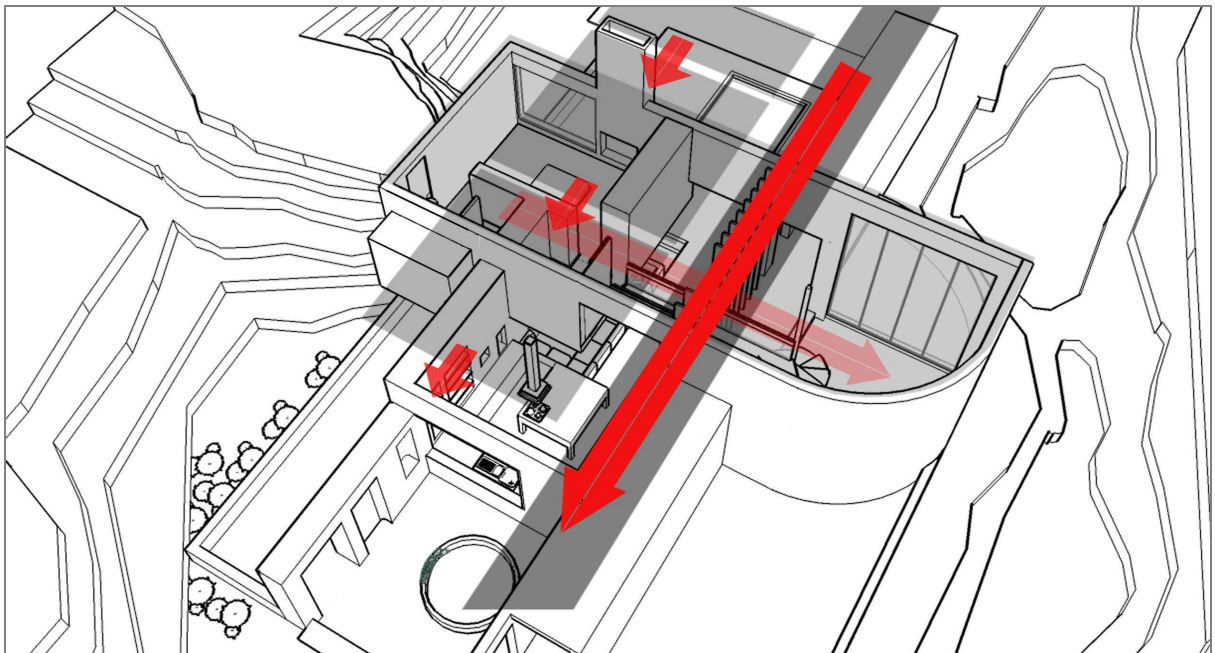


Figure 4.21: Addressing the concept of a sequence of spaces to perceive strong perspective: entrance hall to library, to kitchen and long continuous tunnel-like corridor. View across the core building.

4.4 The setting up of interviews

The interviews were conducted at five different lighting practices and in University College London, all based in London. In total, 23 professional lighting designers offered themselves for those short workshops and were interviewed at the practices' premises. The years of experience of designers in the lighting profession varied from 1 year to 25 or more years and their educational background varied from industrial design, interior design, stage design and architecture to electrical engineering, which is basically the spectrum of backgrounds that can be found in the body of lighting designer professionals. The participants were informed beforehand that the interviews would be recorded and that the project was covered by the Data Protection Policy of UCL (reference No Z6364106/2007/11/34, Section 19, Research: Social Research). Even though the data produced by the interviews is not considered sensitive as it consists of the professional opinion of the subject on the matters discussed, the anonymity of the subjects was nevertheless maintained, and this is why they are quoted in the Chapter 5 under substitute names.

All interviews were carried out on a one-to-one basis and not as team workshops so that each set of data records the personal opinions of each designer interviewed. The interviewer assisted the process by giving a brief on the house, in a role relevant to that of an architect, answering questions about the space and its possible use and prompting dialogue when silence and thinking had continued for more than a minute or two. Some questions were posed at the end of selected interviews and those were mainly ones where the designers were consumed in thinking and did not explain their motives or concepts sufficiently, or when they hinted that they were following some principle which they did not explain very well, mainly because they thought a key word was enough for a fellow lighting designer to understand their thinking – like using a code which the interviewer knew too well. They were asked to provide concepts only and not to proceed to circuiting and controls unless this was part of the initial ideas, in which case they could explain verbally. In terms of the sequence of interviewing, the designers were given two options for how to organise and present their thinking. The ones who preferred to concentrate on their own were told they could be briefed first, then left alone to think and then recorded while explaining their ideas; the others could process this together with the interviewer in a dialogue process, very much like the concept thinking that takes place in design practices when designers sit around a table and decide the lighting strategy for a new project. They were given a full set of drawings, pencils and pens and the option to use colours if they preferred in order to sketch some of the lighting effects they thought of (Figure 4.22). The 3D visualisation of the house was presented to them

on a laptop screen. This tool proved particularly effective as many designers consulted more than once the various preset views while mentally navigating through the space. It saved a lot of time too.

The material that was gathered from these interviews consisted of the video recordings which were then transcribed to text (Appendix III) and the A3 sheets of paper with the annotated sketches of the interviewees. 23 designers were interviewed in total but only 20 of the interviews have been taken into consideration during the data analysis stage because the first two were pilot studies that contributed to minor corrections and a third interview did not offer any element of novelty or space consideration and was deemed unsuitable. The combination of moving image, speech and sketches is a very rich package of data, potentially overwhelming for a formal analysis, but each kind worked in an informative way with the others: the gesture captured on video and the emphatic voices helped the laborious transcribing while the rough, sometimes incomprehensible, sketching was better understood when linked to the video captures, which reminded the interviewer of the exact moment they were drawn and what the designer was trying to articulate at the time. From the laborious transcribing, scanning and coding that followed interesting things arose.

Designing the case study

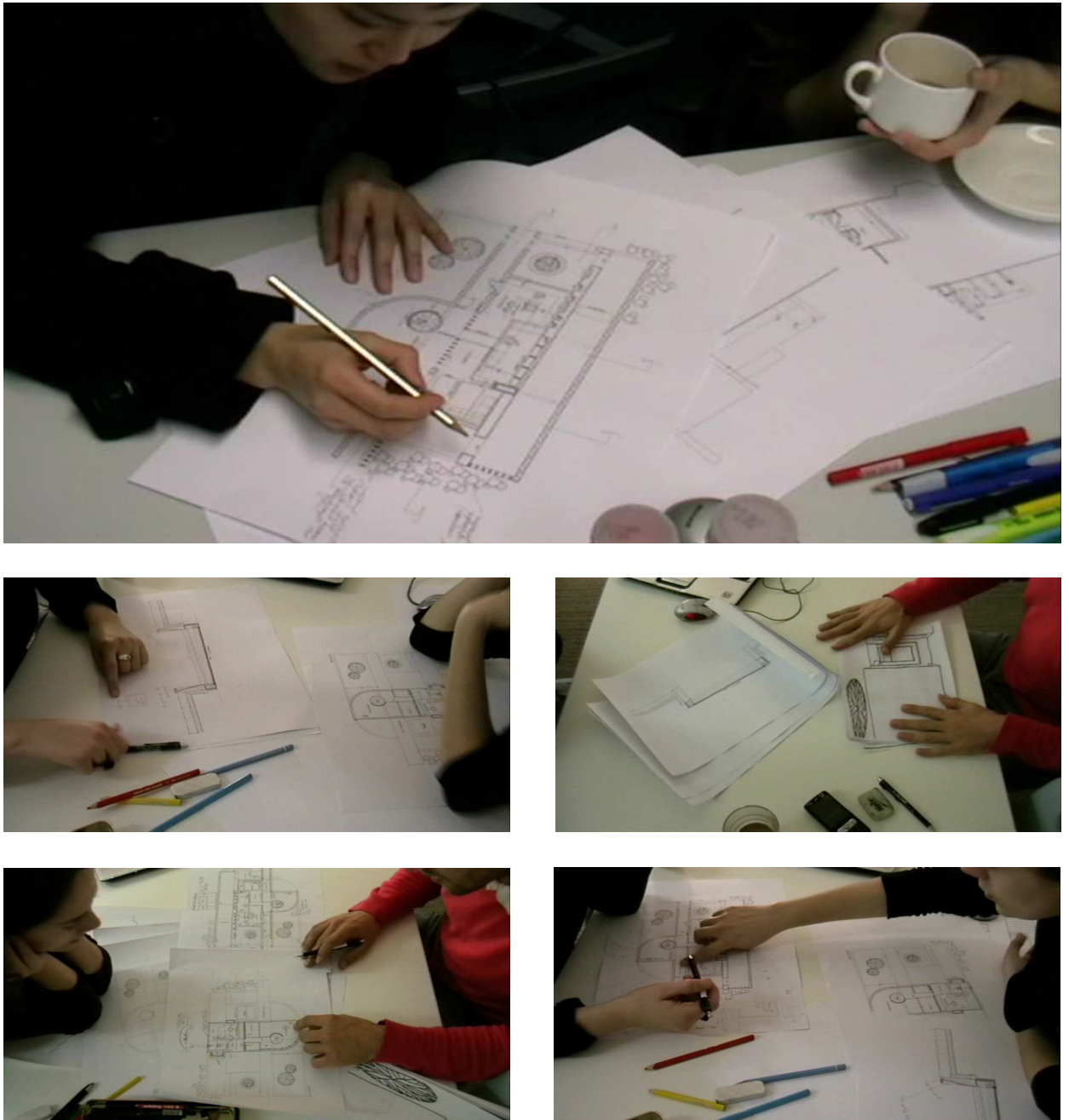


Figure 4.22: Captured from the video recordings.

Chapter 5

Data Analysis

5.1 Introduction

For the analysis of the data it was decided from an early stage to work mainly with the text and use the sketches and video as auxiliary because the sketches are less informative while the video is far too rich in content, and information of a visual nature such as gestures is difficult to represent in a text-based research project like the present one. However, they proved very useful in supporting designers' arguments and the communication of their ideas rather than providing proof of their ideas. Whenever the sketches and the text were not clear on what the interviewee wanted to say, or what the sketch was actually representing, going back to the video recording proved invaluable as it resolved any ambiguities. In the following text, interview excerpts are juxtaposed with sketches on facing pages to allow an insight into the designers' thinking. In most of the cases the sketch, which is a simplified image by its nature, shows only the necessary features, which are the ones the lighting designer needs to specify, for example, the beam and the position of the fitting. Some designers were naturally more confident than others in drawing and illustrated every single step of their thinking while others scarcely drew at all. Some of the designers also used sketches as a way of thinking, usually checking the idea on paper, while others provided the detail as post-decision externalisations.

Transcripts and sketches together make up a very rich collection of data and even though the sample is limited to UK lighting designers it is unique in its kind and could potentially be used as a source for other research. But the analysis did not deviate from its original track, and the transcripts were searched solely for indications of thinking that lay within the scope of the five sets of principles as they formed the hypothesis in Part 1. The age and experience of the designers and the diversity of their backgrounds were not taken into consideration in the sense that although they were acknowledged during the analysis, no conclusions were drawn from this information. There is a large amount of literature on techniques for dealing with data in qualitative studies, but only a few basic techniques were used in this instance because the questions set out were very concrete and direct. The technical part of this search is also explained. The names used in each dialogue excerpt are fictional while the excerpted minutes are the closest time recordings as noted on the transcripts (see Appendix III).

5.2 The coding process

The transcripts produced from the interviews with the designers were coded using NVivo software for qualitative data analysis. The program allows the manual selection of words, phrases or whole paragraphs within the text that are deemed relevant to the researcher's interests. The selected phrases can be marked under one or several codes, which are named 'nodes'. After selection and marking – the coding process – the program compiles all relevant quotes coded under the same node in one document. In more advanced modes it runs matrices, namely it finds and lists the quotes where two categories of nodes cross. For the purpose of this study the transcribed interviews were coded under the five categories already discussed in the theoretical part of the study: direction, geometry, perspective, abstraction and syntax, with an extra node of 'archetypes' which was added later (Figure 5.1). The words, phrases and descriptions of the lighting designers as they moved around the design problems discussed in Part 1, regardless of the validity of their statements, were selected and marked under the relevant node. More often than not, the quotes marked were as long as whole paragraphs in order to keep the meaning of the remarks. The meaning often became apparent within the 'peripheral' account of the designer rather than in a succinct few words or a single phrase. It also transpired quite often that the deductive logic of designers employed more than one consideration and therefore the same quote was coded under more than one node. The following characteristic example is an extract from Sean, a senior designer and head of a consultancy:

So the cove light accentuates the linearity of the corridor that connects the outside to the inside, so as you approach the house, you get a view, your eyes led by the light through the glass, all the way through, so the whole corridor is connected. And that will give... and that light source is concealed so it will give some architectural accent to that wall...

(Sean, part three, min: 05:19)

Sean has chosen a cove effect along the corridor line, thinking of concealing the light source in a detail that will subsume itself in the architecture. Recognising that the dominant architecture is modern and linear he decided to go for a linear cove and so is speaking about the geometry of the light produced in space. However, in the same quote he seems to be well aware of the strong perspective present because of the strong linearity of the corridor. The quote above is naturally classified under both 'geometry' and 'perspective'.

The manual marking – which preceded the electronic but quickly proved copious and which is demonstrated in Figures 5.1–5.4 – also involved the selection of words that could be characterised as lighting terminology, such as ‘downlight’ and ‘silhouette’. However marking single words did not lead to any conclusions as it proved that the initial assumptions about their use by designers were valid: lighting terms were used in more than one way by designers, some times in completely different and contradicting contexts. The fact that some designers were not native speakers also accounted for many misuses of terms. For example, Suzan is not a native speaker but an experienced senior designer. While thinking for lighting in the library seating she says:

Suz. -So probably... this space is like a library, it would be nice if you could have like a corner or have maybe a reading light...

Int. -Put a table in the corner and...

Suz. -Yeah, it could be this kind of... (sketching) they have different lamps. It could be this kind of lamp right? But I could be... there are those lamps you can angle by yourself [bend] and you can have it in the corner which I realise is very useful. Even if you don't have this possibility, I would always allow for an amp socket; just to make it more flexible. You don't know maybe one day they would remove this and go for something different. To make it easy I would just put this kind of lighting.

(Suzan, part two, min: 01:19)

With the phrase: *those lamps you can angle by yourself*, she is actually referring to bending which brings the source at a desired height for the reader. Therefore she is clearly concerned about the right position and aiming of the light source for this specific task she is tackling. The meaning is easily assessed when quoting the whole paragraph. Relying on a word-based search, the word ‘angle’ would have mistakenly been classified it under ‘geometry’ instead of ‘direction’ since abstracted from its context it is more likely to be assumed to be part of a ‘beam angle’ quote rather than the bending the interviewee originally meant.

Another set of nodes was created with regards to the space examined (Table 5.1). For this set of nodes, the case study was split into different areas of the house reflecting what area the designer was referring to when specifying a light effect. Considering the fact that the house was designed in order to check the ‘space’ and ‘light effects’

relationship and to provoke lighting design reactions to unconventional space configurations, special attention was given to the 'double height space', the 'corridor', the 'skylights', the 'view across the house', the 'external underpass' for direction and perspective, the curved geometry of the 'staircase balustrade and steps' and the 'workspace and yard' for geometry, which are classified as 'free nodes'. Some functional areas of the house which did not present peculiarities, but were added to the architectural design to complete the image of a normal house, were also coded as designers tended to spend time on them and produce valuable concepts. This was something to be expected as the participants were never briefed on the theoretical part of the study and were asked to deal with the space as in everyday life. The 'kitchen', 'library seating', 'entrance yard', 'middle yard' and 'front yard' were the names they were coded under, while for the bathroom and bedroom upstairs, which did not present a special space-configuration challenge, the relevant quotes were coded under the term: 'bedroom upstairs'. Finally, the set of fins along the corridor sides constituted part of the corridor element but because of its double nature – visual permeability and physical barrier at the same time – designers paid extra attention to it, often treating it as a different element from the solid corridor walls and most often selecting it to start off with and then expanding to the rest of the house. For these reasons the references to the 'fins' or 'panels' were coded separately as: 'fins as an element of transparency and border'. In some cases the designers kept referring to more than one area at the same time or they kept talking about 'this wall' or the 'other wall' thus making references to smaller areas than, for example, the functional area of the kitchen. In the first instance the same quote was again coded under one more 'node' and in the second instance the quote was still classified under the more extended area because it was assumed that designers always keep the design proposals in 'context' even when referring to very small details, otherwise they would tend to design lighting solutions unsuitable for residences. For the practical implications of handling quotes addressing 'this wall' or 'that wall' the video recordings provided invaluable help in verifying the locations designers were referring to. Generally speaking any ambiguities of the verbal recordings in the coding process were resolved with the visual material. In it, designers made gestures, pointed to drawings or even hatched areas, leaving no doubts as to their area of current involvement.

Table is the result of a matrix of quotes between the first category of free nodes (design principles) and the second category (space). It demonstrates, for example, that the long corridor initially designed for a strong perspective did actually attract comments on perspective from designers; so it was indeed a successful implementation of the initial idea (17 references) that there is a link between long processional spaces and

illumination perspective. One cannot say the same about the references to syntax in any space in house. There was a very low response (maximum eight references), which could be due to an unsuccessful design or part of an effectively weak definition of syntax as a lighting design set of principles and considerations. On the other hand 'syntax' and 'abstraction' are organisation principles and very difficult to link with this, or the other part of the house and such a reaction was expected. Whether or not designers chose to employ one surface as a reflector of indirect light to the rest of the space is based more on their beliefs and skills and less on the material parts of the project. Table 5.1 also reveals the parts of the house designers spent most time on. So the corridor walls were the primary location that puzzled designers in relation to the direction and aiming of light and the bedroom – although a place of only secondary importance – was a space that puzzled them with regards to direction and aiming, mainly because of concepts relating to glare and direct lighting sources in calm and relaxation places, such as one's bedroom. In the category of geometry, the curved wall of the workspace and the helix-shaped balustrade of the cylindrical staircase attracted most comments on the geometry of light. Perspective was very successfully depicted as already mentioned in the corridor area but also in the spaces directly overlooking yards: the kitchen overlooking the middle yard and the workspace overlooking another small yard. Designers were conscious of the visual connection between inside and outside when lighting the yards and clearly said so on various occasions. Even though comments on 'abstraction' were not expected to occur in some areas more than others, the corridor fins, the corridor walls and the workspace proved to be stimuli for abstract thinking and concepts. The quality and content of those comments will be discussed analytically below. Finally, for syntax the areas most discussed were the double height space and the bedroom as well as the corridor walls. Overall one could say that the corridor and workspace attracted attention for all five kinds of discussion, which might be due to the peculiarity and individuality of those areas as well as the fact of being central to the structure with the corridor penetrating its core.

Data analysis

Spaces in relation to principles	Bedroom upstairs	Corridor Solid elements	Double height space	Entrance Seating area	Entrance Yard	Externals Underpass	Fins as an element and transparency and border	Front yard	Kitchen	Library seating	Middle yard and trees	Skylights	Staircase balustrade and steps	View accross the house	Workspace and yard
Direction	13	12	10	6	0	7	11	0	11	9	3	5	11	3	12
Geometry	8	8	8	4	0	4	5	0	8	5	4	4	10	1	11
Perspective	9	17	6	2	2	8	10	7	8	3	14	2	6	7	14
Abstraction	6	13	6	3	2	4	13	3	8	3	8	2	3	5	12
Syntax	6	8	6	2	0	1	1	2	4	1	1	1	4	2	4

Table 5.1: The matrix between free nodes of areas (columns) and design principles (rows). It shows the number of references made in each intersection by all designers involved. Digits in bold indicate the most frequent occurrence. Even though the study examines each designer's own system of thinking and does not aim at generalising across different designers' logic via percentages, the table demonstrates that some space configurations evoked specific lighting design principles while others were not very successful or were not sufficiently developed.

Data analysis



Figure 5.1: Coloured labels for the manual coding of interview quotes.

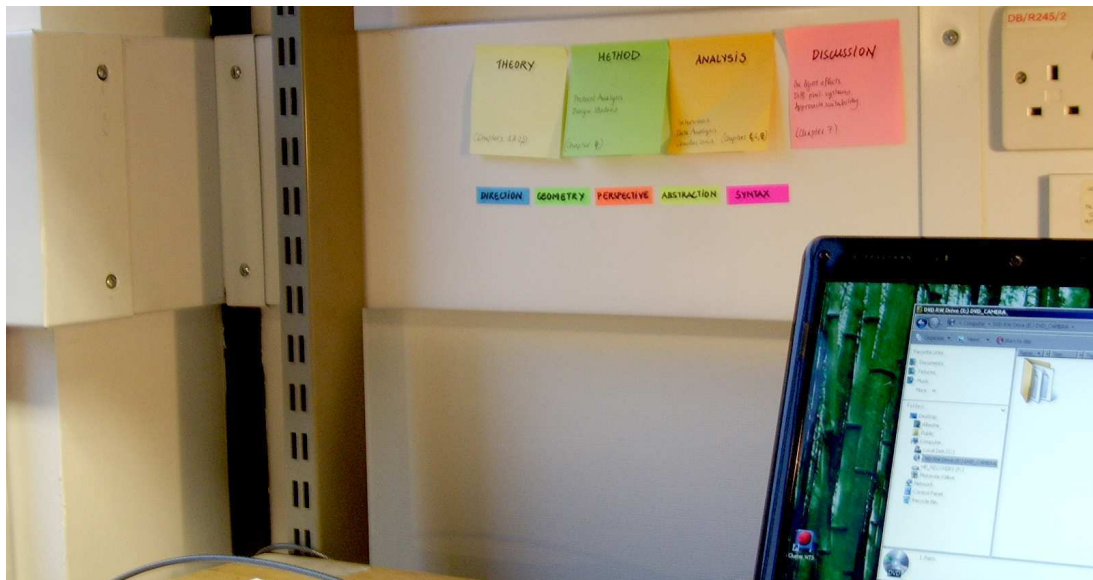


Figure 5.2: The labels in the visible area of the workspace. Manual labelling was replaced by NVivo software when it was realised that the volume of work was too large to be handled manually.

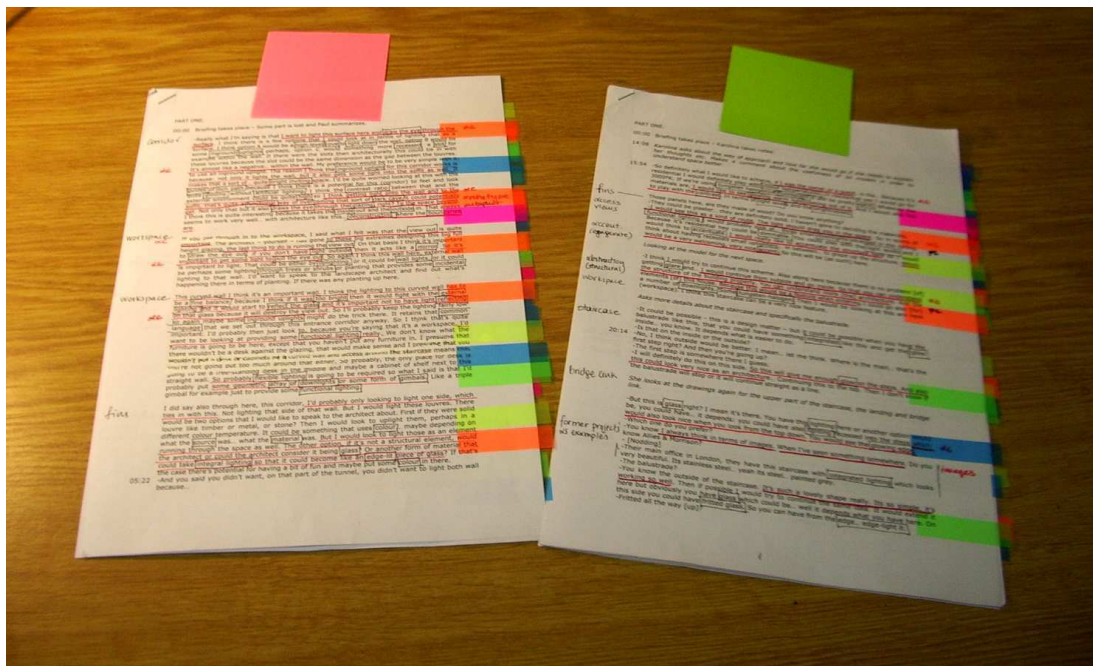


Figure 5.3: Coloured labels on one interview document.

Data analysis

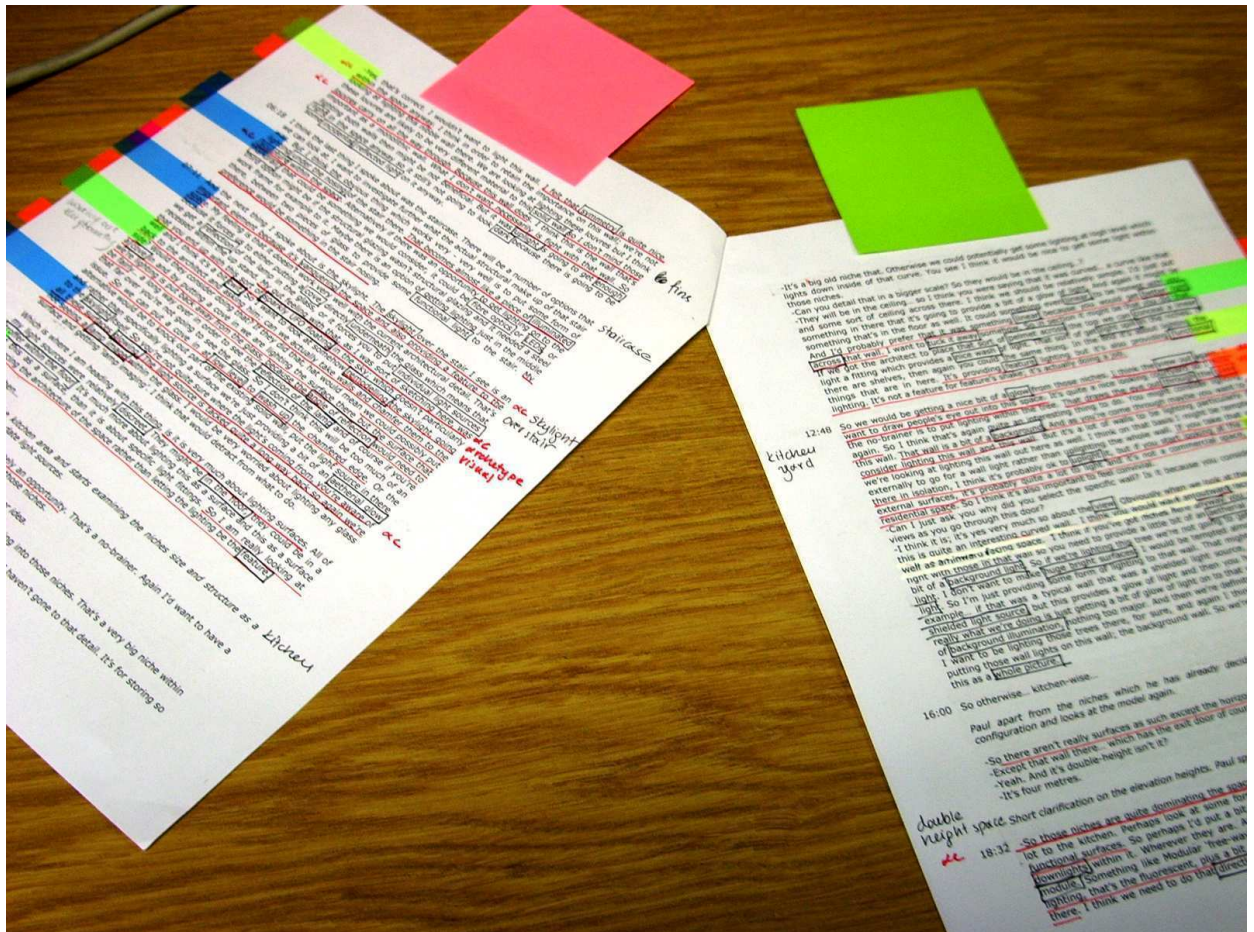


Figure 5.4. On one side of the document (gutter) the search for quotes relating to the five principles quotes was noted while on the other side the space referred to is noted. Those two sets of data were the main elements sought after and were later used as 'free nodes' in NVivo software analysis. There are also notes of single words for lighting terms (black frames).

Data analysis

After grouping all quotes of one kind together, for example, references on abstraction, the texts were coded again. The new notes allowed for comments within the scope of one principle, so that the variations of its use could emerge: an extremely useful practice, for example, in the comprehensive definition of the complex notion of 'abstraction'. Generally the definitions attempted to group several design considerations in broad categories, codified as direction, geometry, perspective, abstraction and syntax, were successful not only in relation to the specific space configurations but also as stand-alone groupings. As they set out to deal with the lighting task of providing light for the residence, designers explained their apparent problems and preferences, and as they began to face those problems they linked the effects they chose to solutions – namely they chose specific effects to respond to specific design problems and thus confirmed the hypothetical part of the research that attempted to link those two. For example, 'downlight' is a very direct description of a light effect, not an ambiguous one, which is defined so exactly because of the solution it provides: it provides light aiming downwards and is selected because light is *needed* in that direction as the detailed part of a more complex and holistic thinking about the space. But a more analytic reference on the designers' input is needed in order to be more conclusive about the whole project.

5.3 Design thinking ... 'in their own words'

In Chapter 2 the group of principles under the term *direction* included the issues of modelling an object or surface, the considerations of the human body's proportions and position of the eyes according to the task and unwelcome glare, the consequent division of space in levels and the simplest issues of availability of mounting positions. Several quotes from the transcripts reveal a solid logical link between these sets of 'problems' and 'solutions'.¹

Edward – a senior designer with more than 20 years' experience – provides an example of modelling issues and direction decisions. After having selected to light the curved wall of the workspace he decides to light it from only one direction because he believes this will reveal form at its best. He then finds it easy to mount the sources on a vertical detail (the curvature unfolds in the horizontal plane) and to further enforce his image of the intended effect he uses references from an old project where he met a similar problem, lighting an elliptical shaped ceiling in a business school.

Ed. -I think that wall is essential. You've gone into a lot of trouble to develop a curved wall. Its curvature will be seen by light being mono-directional, so we will enforce that directionality by mono-directional light. I'd like to try and emulate that at night-time so that we can begin to light that wall but in a mono-directional manner. I'd like to try and build some form of detail there. I'm not quite sure how we'd do that. Probably a vertical detail sending light out across there. And then it reflects around. I did a business school where we actually developed an ellipsoidal roof. This is internal.

Int. -This is in section or plan?

Ed. This is in section (Figure 5.5). So what we had was a scoop there, this was white chippings so the light was doing that. Then in here we scooped this daylight up. On this side we didn't have a scoop. What it actually gave us was the feeling of an ellipse surface. If we lit it from both sides it flattens. It becomes a flat ceiling. So we tried to light it from a single direction by lighting it across there. And then at night-time what we did was to put fluorescent tubes in there...

¹ Problems and solutions are here in quotation marks because they are used in the sense described in Chapter 5: more like ill-defined problems rather than problems in the mathematical or logical sense.

Data analysis

Int. -And imitate the daylight...

Ed. -Which imitates the daylight. It works tremendously well. If we then take that, cut it down the middle, and make it a section instead of a plan, we get that. So basically that is turned upside down, cut down the middle. One way we could do that is to probably put a piece of track with vertical spotlights. And we could begin to send – spotlights along that surface. So in plan we would...

Int. -Would you like a softer pencil?

Ed. -Yeah that would be... (Figure 5.6)

Ed. -Oh! We got the glazing across here. Basically what we do is send light along that way. So we would get that bright and then what is going to happen is what happens on any curved surface. The light hitting that surface will reflect to that surface, will reflect to that surface. So every point can see every other point. Because of its curvature (Figure 5.7). So we get a very, very soft transition of light going through. We could probably do it in fluorescent as well. It depends how we conceal that detail but I'm sure we can manage that. It may be that the glazing is held back and the light is actually in there so that it is concealed. Where the light is coming from. But what you do get is wash which works its way round that curvature. Which again is really quite powerful as far as people standing out here are concerned. So that's some sort of detail in to there.

(Edward, part one, min.: 22:35)

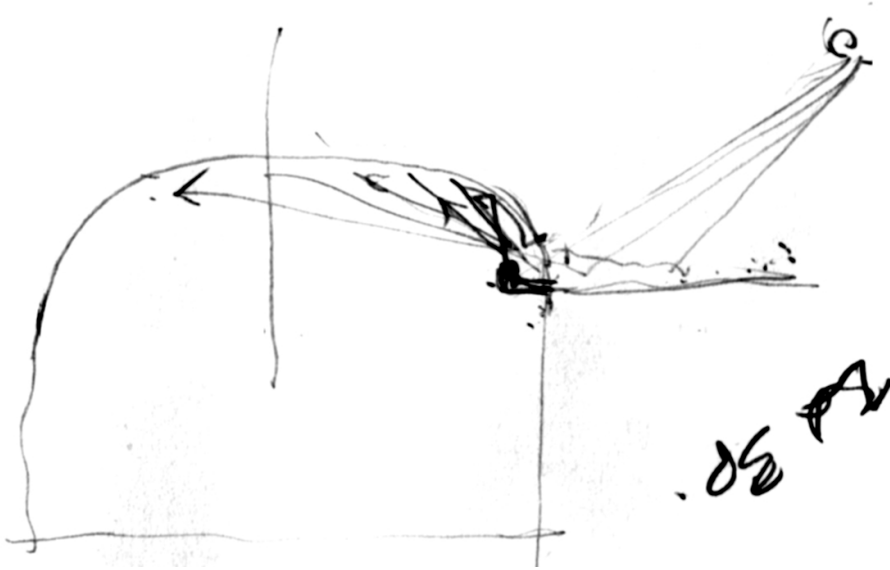


Figure 5.5: Sketch by Edward representing an ellipsoidal roof in section which can work as curved wall in plan. The mono-directional lighting detail solution can apply to both cases.



Figure 5.6: Sketch by Edward depicting light washing one side of the curved wall while grading towards the other.



Figure 5.7: Light hitting sequence of surface points along the curve.

Many designers reveal their thinking about the movement of users in space and the relation of the average human body to the positions of the light sources. This thinking sometimes leads to the mental division of space in levels (low level or high level) or the alignment of a pleasant glowing source with the eyes or the avoiding of direct views of lamps as a caution against glare. For example, Hugh decides to suspend a pendant from the high ceiling of the workspace with the argument that this will be seen and enjoyed by the user climbing up the stairs.

Hu. -Yeah, well I was thinking that work space, work space is all about real flexibility really I think, so I'd be thinking task lights possibly because I don't know what the furniture is going to be like there, with obviously something to give a basic illumination, but then you've got this huge glass window so that would be a good opportunity to... so, yes, we're going to suspend something in here, that'd be nice so it really gets framed in that window from outside.

Int. -Do you think you want to suspend something because it's a high space...?

Hu. -Yeah, it's really high...

Int. -Following this vertical thing?

Hu. -Yeah, I think ...was it 5 metres?

Int. -5 metres, yes.

Hu. -That's high. That's really high. I think if everything ...'cause we're talking shelving, tables, if everything is quite low level, then potentially you've got this wall because it's curved, it's going to be I would say it's quite likely that it could be left blank, it could be quite difficult to hang stuff off there, you've got a large wall space, you've got everything at low level apart from this...I think it would be nice to have something suspended which you can follow up when you go up the staircase. So I think if I could get something suspended in here to illuminate this area, hopefully this area, possibly some extra, additional lighting here to pick up the...make up the levels here².

(Hugh, part one, min.:22:40)

² The use of the word 'levels' here is meant in the sense of numerical levels of light quantity and not spatial ones.

Jeff on the other hand is very clear on the link between tasks and spatial levels. The kitchen worktop deserves to be carefully lit while low-level lighting does not offer anything because one would be essentially lighting people's feet. He as well as other designers also makes an apparently arbitrary link between low-level light and intimacy.

Int. -Can I ask you about the downlights you put on the kitchen island? Are they narrow beam or wide beam?

Je. -They would be narrow. Because I wouldn't want to light the side of this. So the light would have to come down past them to kind of do... that. I would be relying on whoever's under here to sort of make it look even. I re-specify... whatever was there. So that would be a medium-beam to sort of try and get the same effect so that the table is lit but the floor is not. You need to have a task lighting for this because you're doing things... it's physically dangerous with knives and you can't put it under the cabinet because there isn't one and this is the window... isn't it? [...]

(Jeff, part two, min.: 09:21)

Je. With an island like this you could float that but... I mean... It's quite... if people are sitting outside it'll be like people putting lighting under this table. Do you want to light people's feet? It's not very flattering. If you're thinking about 'how can I make this space intimate in the evening'...? And the only way to do that is to put more candles in the evening. Because it's going to be quite a downlit harsh space.

(Jeff, part two, min.: 09:21)

Robert while designing the light for the bedroom is concerned about glare and he is devising an adjustable fixture suspended over the bed, which will prove useful for a reclining bed and several sitting positions.

Ro. And the other thing we need is reading light. Can we see the cupboards? Yeah it's fairly tempting to put lighting in the shelves. But it doesn't really shine light down yet. Does this start at a point that the bed head more or less ends or so? Because I do have [unclear] ... When this is the bed, there's your pillow, and normally it does like this: bed end, you got a wall up here... The thing is a bit of a decent bed is always put at an angle and there goes the light; you block it yourself. Which I think is really annoying. You're sitting here, you're reading and you just can't read anything. Because the light source is here and shining that way...

Int. -Yes I can understand. I never thought of that.

Ro. -Which I think is really annoying and what I had in the Netherlands, which is like the most simple fittings which is like the tasklights we have here, but more extended one... (Figure 5.8) You can just pull it over. Another option could be, to do a variant which comes down from the ceiling and goes two ways.

(Interviewer asks Robert to sketch again the detail so as to be more useable. Robert sketches a new detail (Figure 5.9) and mumbles to himself).

Ro. -The varied to that one, that one I just drew is more like... doing more or less this, the variant is coming down from the ceiling...

(Robert thinks around the two options and realises the one coming from the ceiling will act as an obstruction to the shelves behind it).

07:12 -...can basically do this, with its arms up; this can do the same thing, hanging down. From the ceiling, it might even be nicer if you could push it up.

Int. -But then it might be an obstruction for the bookcase, wouldn't it?

Ro. -Yeah. Probably it would.

Int. -If you want to grab a book, then...

Ro. -Yeah but they won't put books in there, most likely. How much height is there?

Int. -That's up 2 metres. And there's another 50 cm, half a metre to the ceiling.

Ro. -Yeah, you are more or less blocking the way... You can then go for this one. And they come in smaller versions as well. So [that] they don't really block the full shelves so... [Unclear] Yeah, it would be nice to put some nice objects in here; I don't really think about using books. It would be quite nice to have like... glowing shelves.

(Robert, part two, min.: 7:12)

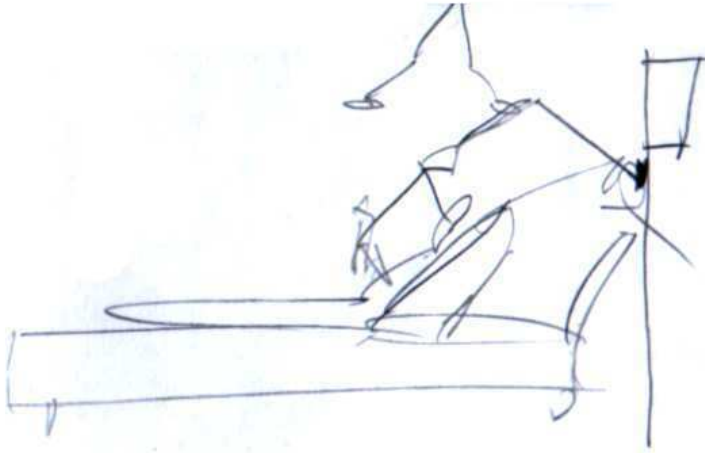


Figure 5.8: Robert's sketch of a reclining bed with adjustable reading light that works independently of the shelves or bed mechanism, solving glare problems and correct aiming of the source with one solution.

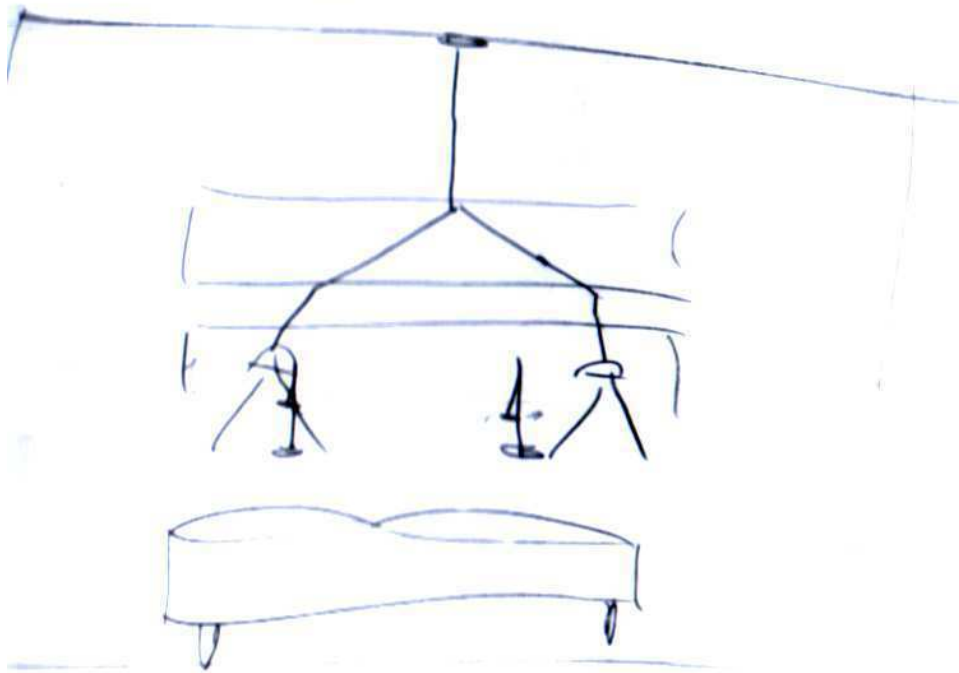


Figure 5.9: Robert's second solution of suspending reading lights from the ceiling to gain freedom of adjustment. He quickly realises that this will obstruct the view of the shelves.

Sometimes the position and aiming of a fitting is decided while searching for the least disturbing solution. For example, Jeff is looking for a solution to light the entrance seating area with an overhanging skylight on top. His brief thinking goes like this:

Jeff. It wouldn't be an uplight because I wouldn't want it go to the rooflights and it wouldn't be a downlight because it would make it unpleasant to sit underneath given that it's not very high. Maybe it could be at different heights to make that wall a feature.

(Jeff, part two, min.: 0:00)

In some other case the exact angle has to be worked out in relation to the source, the individual and another surface. John is being careful about lighting the area in front of the bedroom mirror and applies knowledge gained from previous projects and dealing with clients.

John -Ok full-height mirror... this is important. And this whole zone here. Although your clothes and everything are here, that's an area that's going to be used a lot for dressing up and stuff like that. So I would actually treat this very, very carefully. And do a full-height mirror. This is something you see in posh shops and everywhere, we do this a lot. You have your mirror but you sandblast, ages old trick nothing new there. Just works. And the reason you do that is because you get that front light. Nothing works better than that. Definitely on a dimmer, definitely warm. So you have that but also I would then put a downlight quite close to the mirror and...(Figure 5.10)

So I'll have another [downlight] here that is going to be tilted by 20°-30°, which means... you have your mirror here with a little light there and you're standing here. That is not going to blind you but it's going to light your clothes. And it's not going to light your face.

Int. -This is the mirror? This is the side of the wall?

John -Yeah. And it's done in such a way that it doesn't hit you in your eyes and it doesn't hit you in the face. You're specifically just lighting the clothes. And then you have this diffused glow that gives you the ambient light to your face and all the rest of it. It's super good particularly if you're a lady. I didn't invent this; I learned this from Giorgio Armani. If that man knows anything, he knows how to light people in front of mirrors.

Data analysis

Int. -You're working with him in a project?

John -Yeah I'm working with him at the moment. So then I would also put both sides mirror lights around here. Something for your face because I assume there's going to be a little shading mirror in there. These again are very basic stuff you see in every hotel and they very often done very badly. And they are very often far too bright. Your pupil shuts close and it all feels very uncomfortable.

(John, part two-three, min.: 33:53- 04:03)

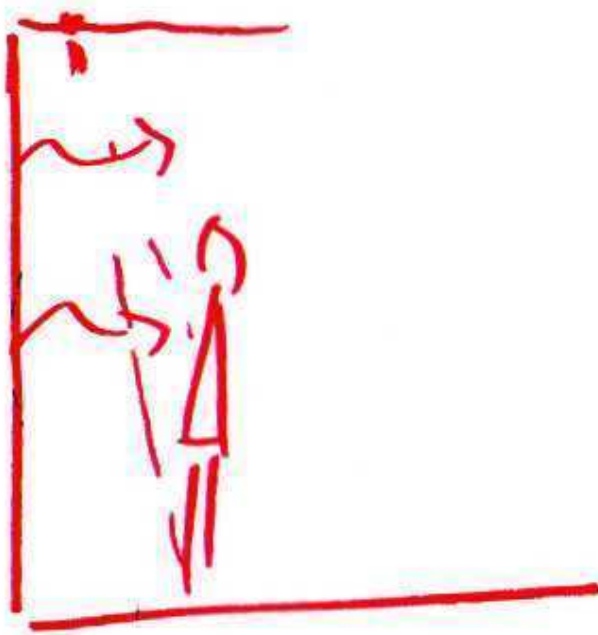


Figure 5.10: A quick sketch made by John considering three parts: the individual, the full-height mirror and the downlight. The 20-30° angle is indicated with a dashed line reaching only the body part while leaving the eyes out and the image reflection is indicated with 'flowing vectors'.

Under the code 'geometry' all quotes that describe some form of involvement of the designer with the architectural envelope are gathered. This includes cases where the designer chooses to slightly alter the structure to achieve a better distribution and cases where the source is chosen according to how well it is accommodated in the present architectural form. In most quotes there is evidence of a speculation about the imaginary light distribution and in some cases the designers draw thin lined blobs or oval shapes to depict the light pattern they imagine on the surface. Since the light pattern is effectively the slice of the light distribution hitting a prominent surface the choice of desirable light patterns presupposes some forward thinking about the geometry of the distribution itself.

Suzan is an example of a designer who spent a lot of time during the interviews thinking about the light distribution and consequent patterns on walls and she made some very 'illuminating' sketches. At some point she considers hiding a series of PAR lamps in a cove so that the top of scalloping is not visible but the light reaches far enough in height. She also spends some time justifying her dislike of scallop patterns.

Suz. Actually I hate all the scallops you know. I would like to keep this wall without any scalloping and so on... I think it will destroy the whole effect of this wall (panelled wall).

Int. -Why you don't like the scalloping?

Suz. -Well I think it was very popular in the 80s and I think now, more and more, if you see scallops it's the question of taste. It doesn't have really a proper aesthetic approach. This is what I realise when I'm talking to people. I meet with clients, they don't want to have it or... I mean also for my personal point of view it's a graphic element. In the United States, they realise I think how to do this right. In Europe they still do not know how to do this right. So it looks like it's accidental. In the United States they have the idea, they use the PAR lamps and they... it's interesting... they usually (sketching) position the PAR lamp – this is the alignment – and the spacing is very close (Figure 5.11). So what they are achieving actually [is that] they don't allow you see into the lamp, you know they just go for bare PAR lamps and the spacing on plan, they are going for very close spacing. So what they do is obviously they do get scalloping but this scalloping looks very neat. It's not like a wide beam which catches the surfaces because it's you know. I've seen this many times. When you have an important wall or reception, they've done this and it looks very nice (Figure 5.12).

Data analysis

Int. -So the attitude there is: if you're going to use circular/point sources you should array them the one close to the other, otherwise you have the scalloping.

Suz. -Well yeah or you just have to see the beam angle and how far the walls are apart. You don't have a section here, right?

Int. -Through the corridor? No.

Suz. -But I mean, imagine... what was the height here?

Int. -Three metres.

Suz. -So if this is 1.5 this will be approximately 3 metres. Right? So if have my fitting and I go for a wide beam, I would kill the whole effect of all of those small uplighters and also I will get a scallop here (opposite wall). I would rather go for something which would actually do this (Figure 5.13). Maybe you could also have elliptical lens, so maybe you would go for this kind of distribution (oval shaped). This is what I would do.

(Suzan, part one, min.: 25:04).

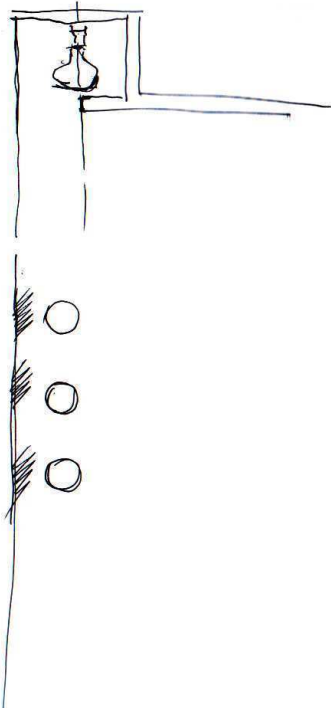


Figure 5.11: Suzan explaining how to avoid visible scalloping of PAR lamps by hiding them in a cove detail. Here in section and plan underneath. The hatched areas are the expected parts of the wall which the beam distribution will catch more intensely.

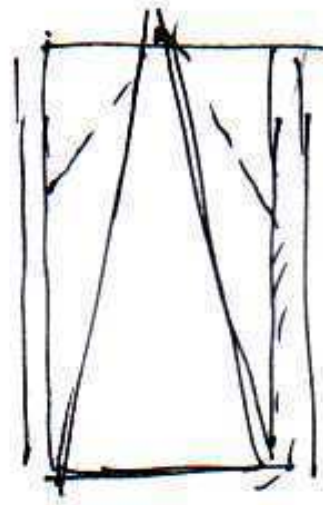


Figure 5.13: Suzan is trying out two different downlight beams. A wide beam touching the walls at one third of height and producing 'scallops' and the narrow beam which reaches straight to the floor or first horizontal surface without 'touching' the containing walls of the corridor.

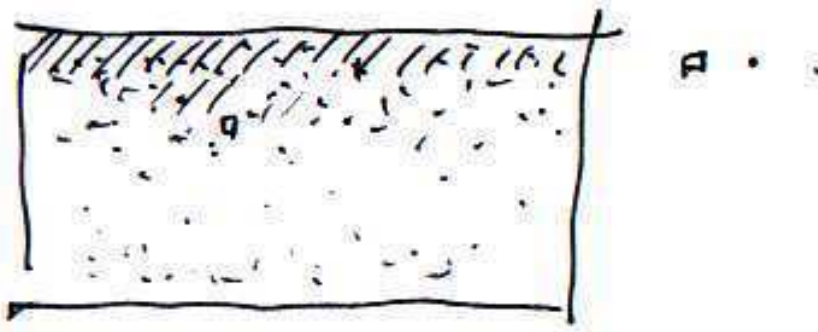


Figure 5.12: light washing down the wall. The expected pattern is a linear one with more intense presence (hatched area) at the top.

Andrew, another senior designer, is from experience aware of changes that an architect can agree to once he/she is convinced of its necessity and the lighting designer can better integrate lighting that way. So he is proposing some small altering of the skylight.

And. *-And the next thing I spoke about is the skylight. The skylight over the stair I see is an important element because it's hovering [over] the space and also providing a feature to the space. My feeling is that it doesn't work very well with the current architectural detail. That's because it forces us to either put in a cove, directly underneath the glass which means that we get a reflection of the lamp in the glass, or it forces you to put individual light sources recessed within the up stand. My gut feeling with that, as I was sort of sketching here (Figure 5.14), was that you end up with this sort of sparkly UFO floating in the sky; which doesn't fit particularly well and I think it's a bit twee. So I want to look at somehow remodelling the skylight, going back to the architect and asking him: can we actually take walls and chamfer them to the side? Would they consider doing that? If they did that, that would mean we could possibly put a cove in and by putting a cove in we are lighting the surface there but the surface that we're lighting is put back away from the glass, because the angle of reflection would need to be fairly... a long way over in order to see the reflection of the lamp and of course if you're that far over you're not going to see the glass. So I don't think this will be too much of an issue. So we can put a cove in at low level to wash up the chamfered edge (Figure 5.15). Or the alternative would be to knock out part of the existing solid wall, put the light source in there and rather than specifically lighting a surface we're just providing a bit of an ethereal glow to the skylight itself. So you're not quite sure where the light's coming from, you're aware of all these surfaces glowing. The light source is tucked quite a long way back so again we're not seeing a lamp image within the glass. I would be very worried about lighting any glass surface and getting 'lamp imaging'. I think that would detract from what to do.*

(Andrew, part one, min.: 7:11)

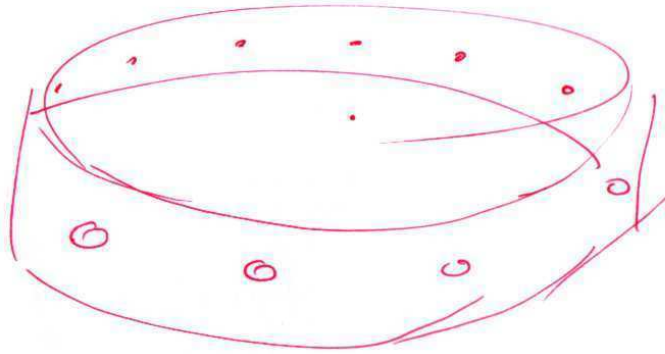


Figure 5.14: Negative appearance of the skylight as UFO. Andrew opts out of this solution of direct point sources and goes for indirect concealed lighting.

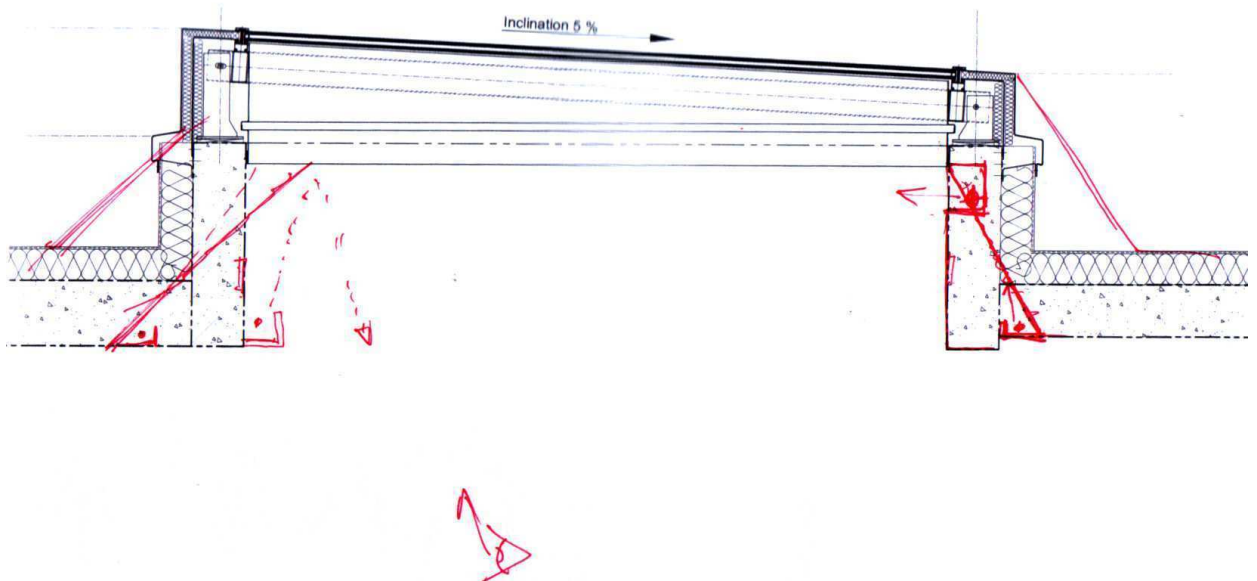


Figure 5.15: Andrew's idea of chamfering the edges of the skylight and adding a cove to it so that the light source (red dots) is washing the chamfered edge and not the glass. The 'eye' underneath the skylight is indicating visual angles.

Designers are very aware of their major tool for altering light distribution, the reflectors. There are several examples where elliptic or parabolic reflectors are used by interviewees, especially when the light has to be directed over a space or across a designed wall. Peter, for example, a senior designer with more than 20 years of experience, eloquently expresses a detail of light beam modulation for the bathroom low-level walls.

Pet. -I think maybe for in here the other option would be, suggesting light coming up there. That whole space then gets ambient light from the top of this unit. So that is our light source.

Int. -So that's the second option then. Is it something you would prefer over the others?

Pet. -Well I'm just looking at that because you've got an entrance hall, you got the whole of the bedroom. I mean you've got to have some sort of task light for reading in there. We got a bit of glow coming out of here which may or may not... we may decide that that should be on only when the doors are open. It might be that what we're doing here is to say where that comes across... in here we put an asymmetric reflector (Figure 5.16). So what we're doing is we're throwing the light forwards, so that in there...

Int. -So the asymmetric reflector is on the bottom?

Pet. -... which comes up like that. With our toilet over here, what we're throwing the light like that and then you're doing the same thing... (Figure 5.17)

Int. -The toilet is on this side?

Pet. -Yes, this side. So we're throwing the light away from the toilet. You could stop all light going from the toilet. You could put a baffle in here and it might be something you can add afterwards. It's something you can look at and say: yeah I'd prefer this cut-off. So the light starts on the ceiling at that point there and goes forward. So we keep the toilet as a separate unit and it does what it does without any additional confusion (Figure 5.18). And we could have that; instead of being a solid baffle it could be a perforated baffle. So you get a little bit of light sprinkle in there but it may be enough to be able to see your way around. I would use that to push my light forward to the whole space and again into here

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(entrance hall). And that matches with that diffusion. We're using the horizontal surface in here. We have things we can get at them and we haven't added things onto the ceiling. So none of these places apart from under here and here, will have anything in the ceiling. So when you look through, even though those are only 2 metres high, you look across the ceiling and you don't see anything at all.

(Peter, part three, min.: 0:00 – 5:30)



Figure 5.16: Close up detail of the asymmetric reflector on the top of the wall which 'pushes' the light distribution forward covering the toilet side with soft indirect light and the entrance to the bedroom area. Black thick line indicates the necessary distance from the ceiling.



Figure 5.18: Elevation of the low-level toilet wall.

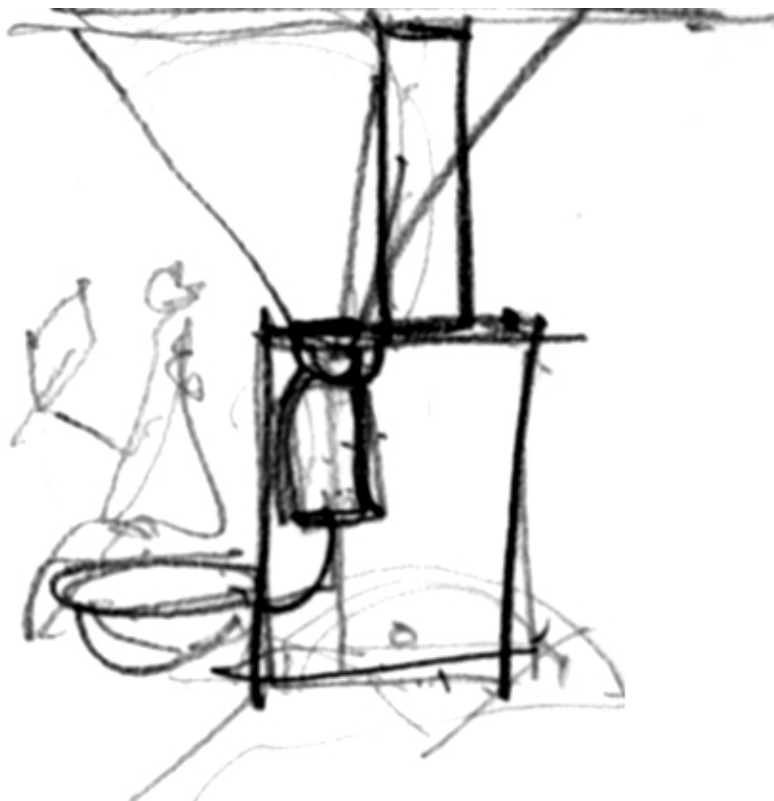


Figure 5.17: Section of the same idea with the light distribution indicated with a thin line triangle.

Finally there is a group of interviewees who explained their choice of effects by appealing to the given architecture. Sean, for example, is also a senior designer and head of a participating practice. He explains most of his alignments of downlights and linear light solutions (Figure 5.19) to the modern style of architecture he is given. He explains that modern architecture is based on modules and that his desire to integrate the light sources as much as possible into the structure - such as the use of coves shown on Figure 5.20 - is because of the style of the building - modern rather than traditional. In the following quotes he shows some very interesting thinking in which a holistic approach to *space form* and *light form* is unfolded.

Int. - (Regarding) the lines that you drew in the beginning, you divided the spaces in to axes because you think in symmetries or you think in... err...

Sean -You have to work with the architecture, so you look at the, as you say, the axes lines, the central lines, the symmetry. [...]

-That's right. Yes. And you can't always use them. But you've got to start off just trying to... 'cause quite often, a modern piece of architecture is built on a module. So you might find there might be a series of doors which don't look fairly connected. Then once you draw the axes, you find that they're equally spaced and that gives you a clue on how you can set out your lights. 'Cause a building like this is all about integrating with the architecture. And so the light in the [unclear] must be [unclear] of your architecture. If it's in the ceiling or in the wall, you have to try and create a rhythm and line up with the key access points in the building. That's how I approach it.

(Sean, part three, min.: 0:00)

Int. -And you followed linear light to that wall and also I've seen [linear light] upstairs. It's on those opposing walls...

Sean -Yes. So, this is double-height volume, so you have to think. I have to think 'how do I light this volume, how do I give this shape, three-dimensional shape'? The architectural shape is from the curved wall....

Int. -OK. Do you imagine the downlights that you put in this and that area, wide-beam or narrow-beam?

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Sean -They will be medium-beam, but they'll be set into the ceiling, so that you don't get lots of glare. So they'll be chosen to give the right spread.

Int. -You want the pools of light then? Or you [mean them] to mingle?

Sean -You have a circular beam of light but they'll need to overlap. So you'll get continuous effect. But obviously it needs to be worked out.

(Sean, part three, min.: 05:19)

Having decided that he will go for linear light because this integrates best with the architectural style at hand Sean places the downlights (which are circular point sources) recessed in to the ceiling and in a beam overlap that will not cast pools of light on the floor but instead will give a uniform line of light.

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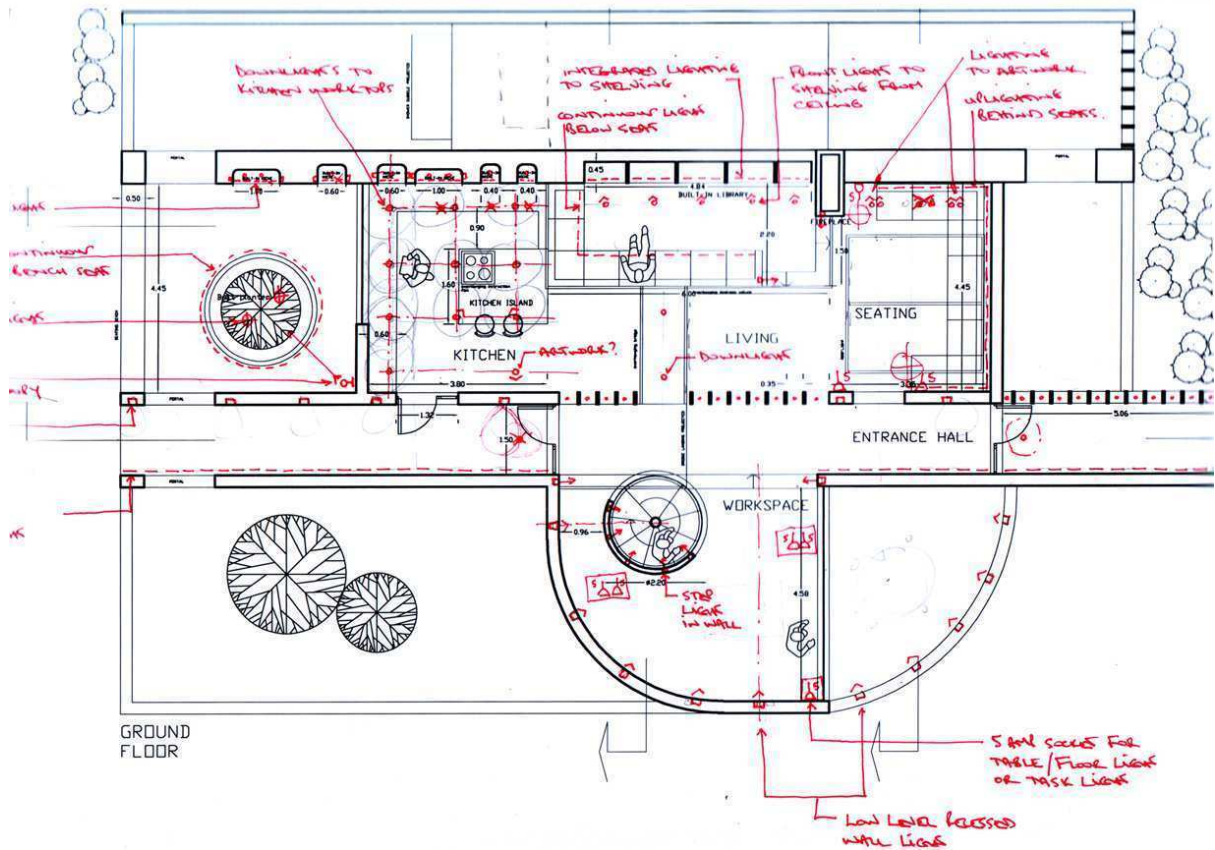


Figure 5.19: Sean's plan of the ground floor with markings in red pen and annotation of light effects.

CEILING COVE LIGHT

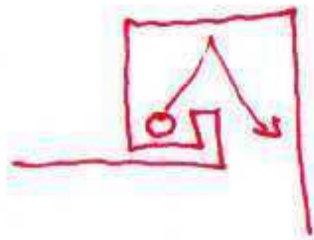


Figure 5.20: Cove detail by Sean.

There are several quotes in the data list that provide evidence of the designers' knowledge and considered applications of the visual laws of perspective and depth impression as these are evoked by specific effects of light. The designers prove to have strong opinions about visual laws, stronger than all the other design issues of aesthetic value. This is evident from the justifications they provide supporting solid arguments for both their original intentions ('*I would like to...*', '*I want to...*' etc.) and the ways to achieve them ('*So this will create...*' etc.). Among the five categories of design principles searched for in the interviews, the ones referring to perspective are the clearest in terms of structure, verbalisation and justification in relation to the given space. The space configuration itself undeniably bears some strong perspectives along and across its plan as well as some carefully created views to the landscape which the large glass panes connect with the interior; but also some less obvious views on the vertical created by the double-height space which are similarly strongly depicted and commented on by designers. So maintaining the views is one evident point in designers' response.

Hel. -Then, coming in [to] the workplace, again this is a very strong curved wall, which you can see through this glass from the outside. So I am trying to light the wall, to wash the wall from above, so when you look from the outside, you have this background lit surface which adds to perceiving the depth of the space. And again there is a very strong, solid balustrade [for] which I was thinking of more options. I was thinking of having this detailed... this is the detailed bit. Again a cove detail washing the wall, either from the inside or the outside but I think it's important to do it from the outside so in this place there are two strong elements: this curved wall and this curved wall washed.

(Helen, part one, min.: 30:00)

To light the workspace wall Helen imagines herself in the workspace yard outside and visualises its lit appearance through the glass. This image of the curved wall being the illuminated background of the scene, according to her, '*adds to perceiving the depth of space*'. The target of a set view according to the designers is not only a wall seen from outside or any other position in the house. Designers also consider the lit appearance or the view of the starry sky through the skylights, the landscape (view out) or the mezzanine seen from the ground floor level. Views are therefore considered in all directions both in the horizontal and the vertical. Here are some striking examples:

Jen. -You don't want to spoil your night-time or your daytime view. I'll use yellow 'cause architects always use yellow for daylight. You noticed? I tease them about it. 'Clear view'; that's the important thing; day and night.

Int. -What does it mean?

Jen. -Well it means I don't want to look up in the night sky and if the moon happens to pass over I don't want to look up at the night sky and get blinded by something. So for this little area I take this as the most important thing to remember. I don't want to mess that up. I don't want to mess up my view. So maybe... would you read in there or would you read in the library?

Int. -Or in the workspace?

Jen. -Or in the workspace? You'll just be lying there.

(Asks for a helpful section to get a better idea of the space).

Jen. -So I would say, if it's all about the roof, it's got to be all about the floor as well. So I'd probably put something underneath the couch to make the floor glow. So that you could enjoy the night sky if you wanted. Then you could safely come in and just look at the sky. So 'floor glow with a linear source running along the edge of the couch'. In plan that sort of will be all around. I'm just thinking there should be something local and nice so if you wanted to do something useful like read or look at something then you could. I suppose the only choice that there is there is wall-mounted. It's wall-mounted and if it's behind you, it won't bother the whole sky thing.

(Jennifer, part two, min.: 3:39)

John -Ok, now architecturally the one thing that I paid attention to almost immediately was the sort of transparency of the design, to some extent. There is quite a lot of views, these vistas, views out, fair amount of skylights... things like these. So I would be interested to explore what we could do with the landscape to extend those views out. From inside when the sun goes down. Of course all the glazing in this environment is particularly good. It's going to effectively turn to a black mirror if we don't have any light behind. So I would see what we can do with the landscape. Pick up a few elements there. Without going too strong with it.

(John, part one, min.: 15:15)

Tom is an architect who has changed to lighting practice for a few years but who has soon realised that he is more attracted to the intellectual challenges of architecture than of lighting. His thinking judged by the whole interview and personal acquaintance is focused on connectivity and flow between spaces: problems to be dealt with originally by architects and less about lighting the existing architecture. He draws a yellow line of light across the corridor wall which revolves up and around the staircase and continues with the bridge link. He also proposes an organic shaped pendant for the double height space which he believes will make a (visual) connection of the lower and upper parts for the users (Figure 5.21). Along the same lines he proposes a series of planar sources covering the surfaces of the double-height space (Figure 5.22) His thinking goes as follows:

Tom -I will quite like to have a suspended pendant in this area. But it should be like a pendant which is formed by small... it's not a big one but comprises of small parts and it can go through this (the fins). You know what I mean?

Int. -Something more organic and fluid to interpenetrate the fins?

Tom -Yeah. It doesn't have to go through like this, but this connection between the two is what I quite like. It's a double-height space and it's not really a closed space but I'd like to make the connection between this and the workspace. Hanging from here; you see? Let's make something that is easier to recognise.

Int. -May I ask why did you choose a pendant for that space?

Tom -Because you don't really sense the difference in space [levels?] here, in this house. And I quite like this double height space and I want to make people aware of that. Because there is a lot of dividing walls and I feel it's been cut into pieces in a way, you know what I mean? And this is a place that I feel I have to make it significant to people; to make a connection; to see that different. And I want to make that connection between these things.

(Tom, part one, min.: 28:28)

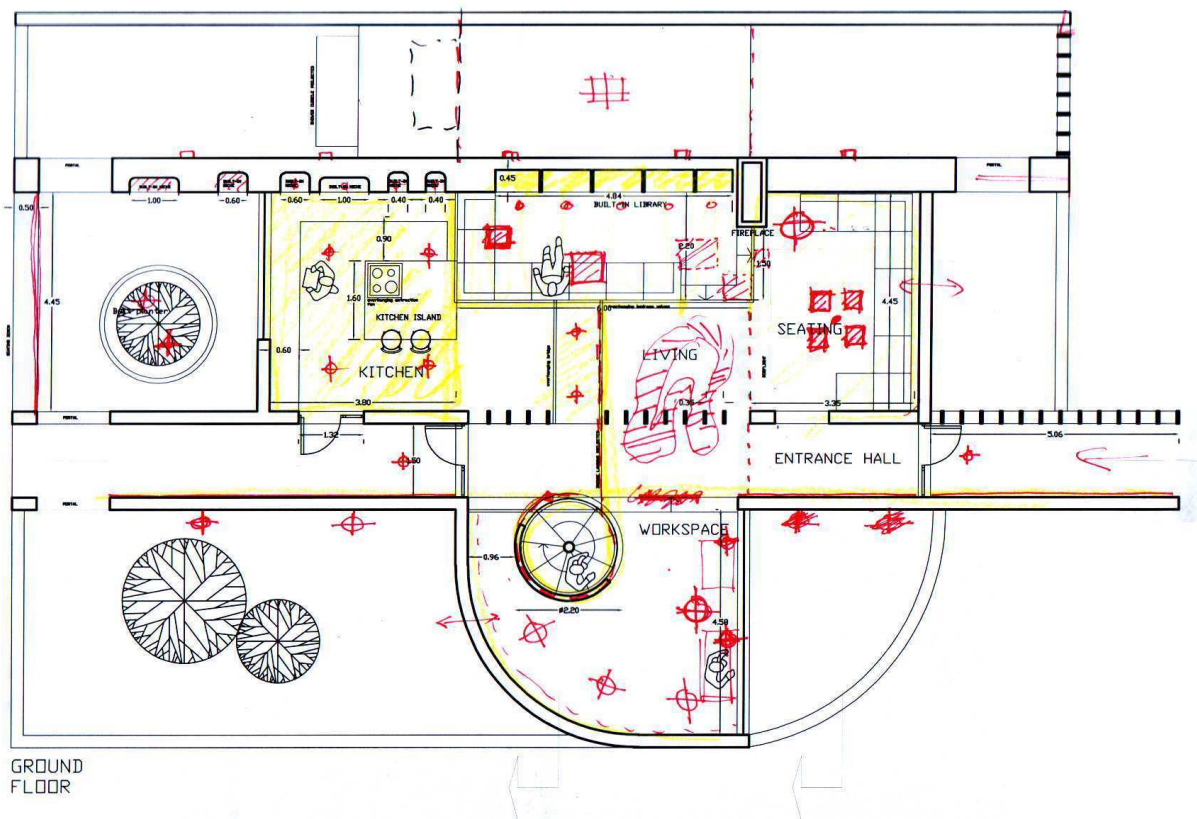


Figure 5.21: Tom's plan of the ground floor with the organic-shaped pendant as hatched fluid form interpenetrating the fins.

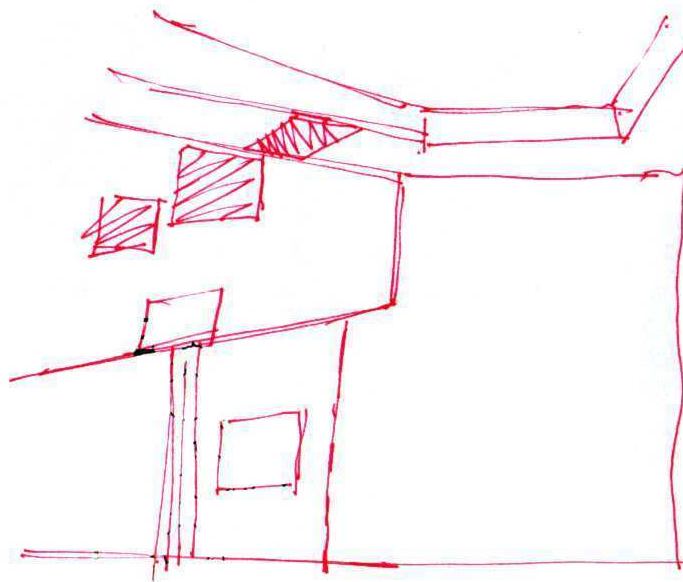


Figure 5.22: Luminous planes mounted on surfaces from the ground floor ceiling to the upper mezzanine level ceiling as a means to visual continuity.

Within the scope of designers' goals is not just the preservation of the internal or external views but also the creation of focal points at the end of a route or a 'vista'. All these intentions as expressed in ways that can be summed up in a general group of effects attracting attention and offering a kind of beauty that comes from variety and differentiation. These quotes are also classified as 'perspective' because there is clear evidence of designers using perspective to enhance the anticipation of a point of interest, often placing it at the end of route or a long view not necessarily physically accessible.

Pet. -What I am looking at is doing that and getting light up the wall and off here. All the way along here (first wall) and the same thing there (second wall). So there is a sort of light pattern (draws contours of imaginary light spill) which is going to do that. What we've got then is this wall which is starting to curve away around here with the staircase in there. And we've got the double height space and there's the kitchen... Eventually there will be something filtering out that way. But then you look down that way and that's an interrupted view and that's a solid element with doors in it. This is a solid, really solid element. Apart from the floor those are my visual interest points. That's where your eye might be drawn or would certainly be resting, if you lit it. Which in a sense gives you time to come upon this space and judge it. You're going to be less drawn to that and perhaps more drawn down into the heart of the space. This (balustrade) is a solid thing around it so this going to block... from that point of view you're gonna have that view blocked, aren't you? Because this is pretty much solid isn't it? It's almost like a cylinder. But it's sort of a cut cylinder so you have these solid elements which go around like that...(Figure 5.23) And that is coming back the other side (the inside of the balustrade)...
(Peter, part two, min.: 5:05)

And. -So we would be getting a nice bit of a glow from those niches (Figure 5.24). I think the view out again. I want to draw people's eye out into this space. It's quite a nice looking courtyard so I think the no-brainer is to put lighting within the tree. That draws the eye out through the glass again.
(Andrew, part one, min.: 12:48)

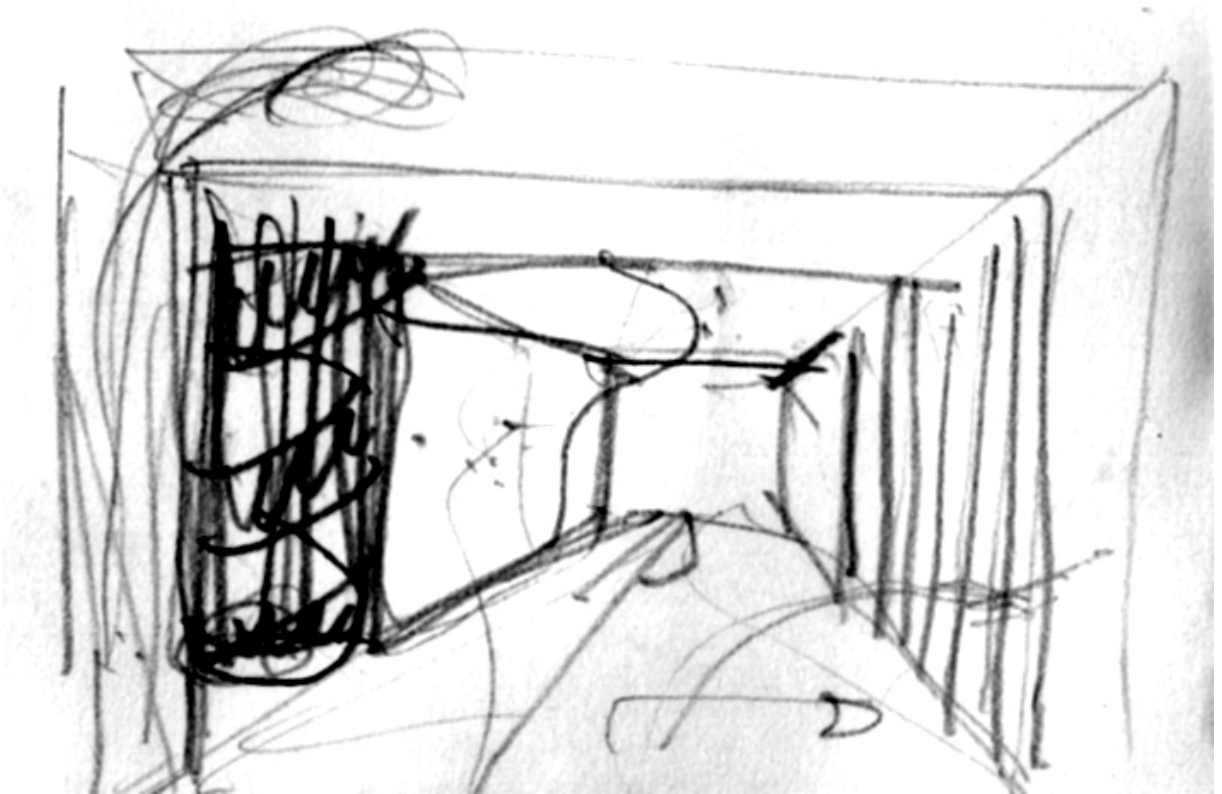


Figure 5.23: Peter's sketch of the view through the corridor and facing the solid walls (dark lines) of the staircase and the fin on the right side. Arrows on the floor indicate the possible routes and vistas.

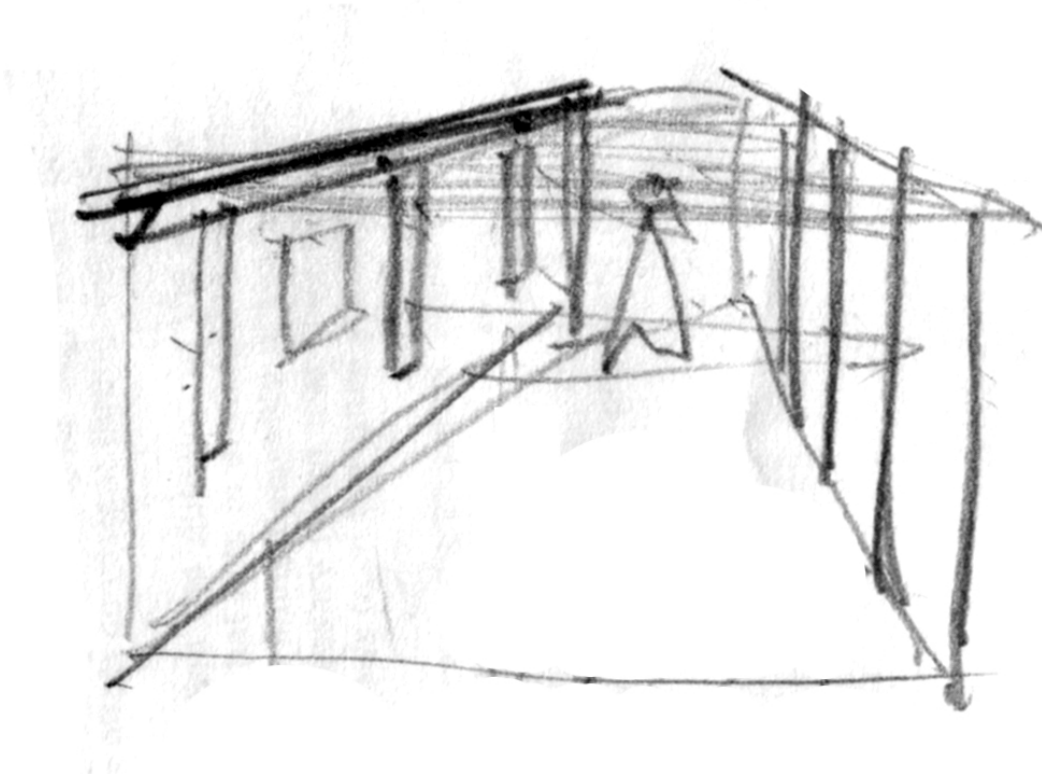


Figure 5.24: Another perspective view of the corridor by Peter.

In Chapter 2 there has been reference to the visual law of perception which states that brighter objects seem to be closer than darker ones, something that Michel Lou has expressed briefly as 'brightness advances'. Since this directly refers to depth perception and light, the group of quotes that refers to similar treatments is also clustered under the same principle: perspective. Evidently, some designers spend some time deciding the brightness of foreground and background planes in relation to one another, and some others, being clearly aware of the above visual law, decide immediately to illuminate the final focus wall or surface at the end of a long view with the highest values in the scheme to 'bring it forward', to 'create focus' or 'to attract attention to it'.

Ed. -Lighting that corridor so that that can be seen. I mean if we stood at the front door we could see right back through into here. And that (pointing) should not limit us. So the brightnesses in here can be kept down so that the brightnesses in here could actually allow us to see through.

(Edward, part one, min.: 12:50)

John -I'm missing one corridor by the way that I didn't light. This thing here.

Int. -Ah, the ending part. This is already external there...but I guess you need some light.

John -I wonder what I would do there. One option would be to kind of reinterpret that detail, on that wall. Because on your architectural design you have created this glazed openings effectively to allow your eye travel through. You mentioned in the beginning the whole kind of tunnel thing, so maybe these turn into a series of little vertical niches. They're full height (Figure 5.25). Proportionally responding to those and... We're here aren't we? So maybe they something like this. Maybe the spacing increases. Just a few of those and I would play them in to this playful way of light.

Int. -So they would be part of...

John -They would be part of this yeah. And then of course you can have fun with the fact that, because you read these through the glass, you drop the intensity here intentionally and you also drop the saturation of the colour so it kind of looks like the glass is doing that if you know what I mean...? It feels that they are receding, they are going away. So it's not really pulling you through that much. So you

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know that when you're here maybe you should turn. It all comes down to programming.

(John, part three, min.: 15:00)

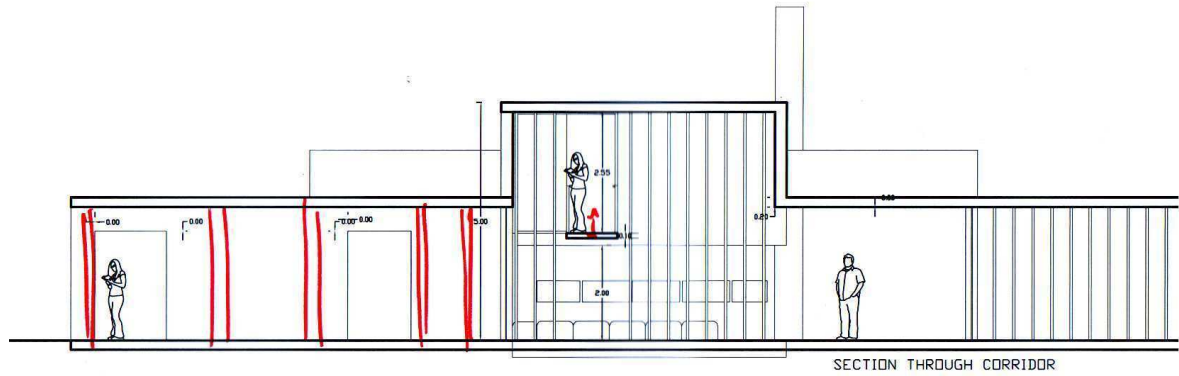


Figure 5.25: John's idea of lighting the end part of the corridor. Full height slots at different intervals fading a little bit at the end, create an illusion of depth.

One important thing that has come up and was not anticipated in the forming of these five groups of principles is how the views change and the perspective changes because of movement. Instead there has been a static conception of space as a sequence of vistas experienced by the viewer and as a result of that conception, lit surfaces were dealt with as static elements in two-dimensional compositions of surfaces. Movement and the changing perspective together with brightness and adaptation as basic functions of the visual perception system change this conception at its foundations. Experienced designers do not deal with surfaces as pictures but 'put' themselves into the space while imagining the sequence of vistas they will have while walking inside it. This type of thinking, which presupposes a good perception of space, considers lighting as a means of enhancing movement, anticipated action, orientation and navigation. In the excerpts that follow, Edward talks about 'visual access' as opposed to 'physical access', which is the essence of what the corridor with the fins on one side evokes for someone who walks along it. One can have a view of the library seating and living space through the fins but the dense arrangement does allow the physical access. By silhouetting the foreground (the fins) against the background (library wall) Edward creates a far focus which cannot be reached immediately but only when the user reaches the break point of the long corridor. This is illustrated in Figure 5.26.

Ed. -So that's how I'd probably treat that side. This one, I think it's quite different because you've got 'vision slots'. You can actually see through these. So I think on those I would probably light this wall. So probably similar technique doing on there. So what I actually now see as I walk through here is I see those as in silhouette. Because what I am actually viewing is a lit wall so I got a nice bright surface and I've got those which are lit. So that actually gives me as I walk along here, it gives me access and perhaps some lighting in here. Not too much out there. What I'm really trying to do is to gain 'visual access' to there.

(Edward, part one, min.: 18:00)

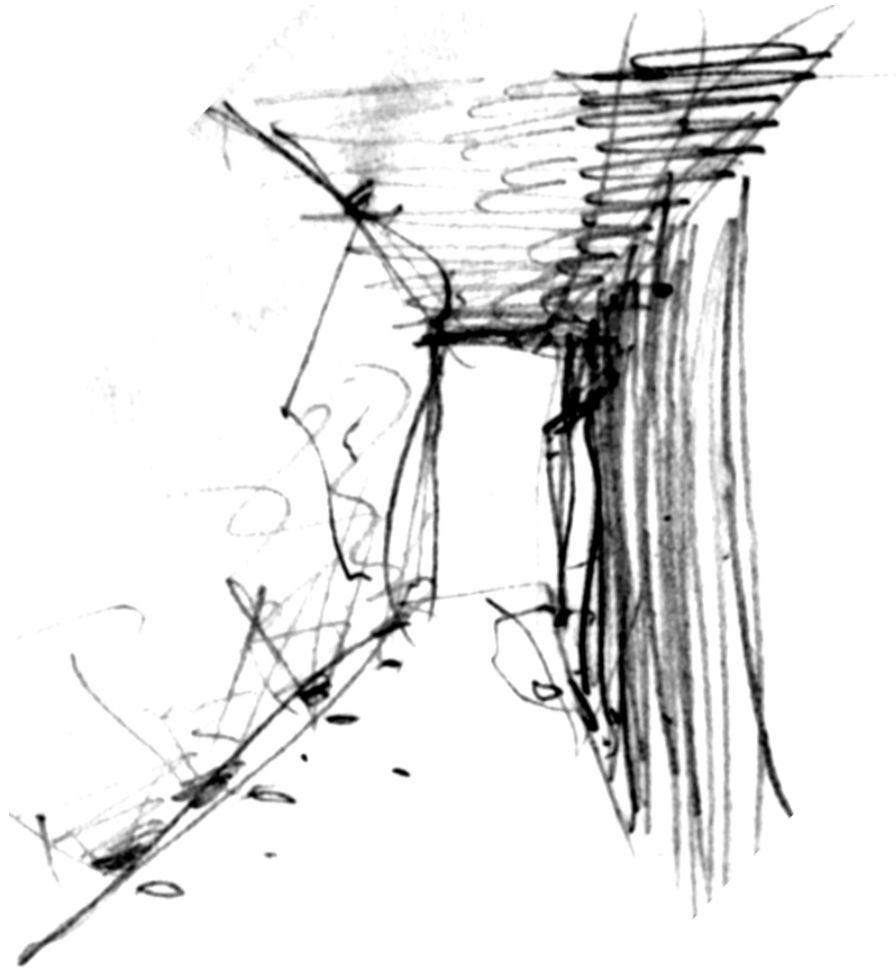


Figure 5.26: Edward's proposed light effects for the corridor. The sketch reveals two main elements of his concept: mono-directional light coming from the left side (uplights) and a strong sense of depth which he knows he will achieve by keeping the right relationship in brightnesses.

In the following quote Jeff declares this type of thinking as intrinsic to his design and it is one of the first things he states in his interview. The fact that he is conscious of his way of thinking is also evident from the fact that he has a name for it (routing) and that he ascribes it to his professional background (exhibition work), which implies that other designers from different backgrounds use other types of thinking.

Jeff -I suppose the first thing will be, in approaching this or anything, possibly because my background is in exhibition work, is that I tend to think about the 'routing' a lot. As to how people move through the space and whether there is a specific direction. Now, obviously the domestic... you are going in every way. How you first approach and how you first see it would be quite important to me.
(Jeff, part one, min.: 12:35)

With regards to the fourth group of principles, which reflect the non-visual thinking of light planning, many designers demonstrated a way of thought that itemises light schemes into structured and organised sets of light effects. Most of those sets are binary in the sense that they consist of two antithetic entities: ambient versus accent (or focal),³ functional versus feature (or decorative or occasional),⁴ horizontal versus linear, light intended for space versus light intended for individuals etc.

Ed. -As people come in to that space to begin to use it, they may actually take a book and want to be able to read. So we now have got to be able to increase the light level in that area. So that's an event and that's an event. That event belongs to the house, this event belongs to whoever is sitting there. We are already beginning to derive lighting events in the house. The kitchen if it isn't being used it really wants some ambient. Some quiet light. To identify that it belongs to the total package of architecture, but it's not in use so that we can keep it down as ambient. ...

And then over here I would want some lighting over the island. Two levels. One would be working light so we could light that fairly brightly but we would be able to dim that down. We can take that out of the general lighting. Also if you had a party you still got all your pots and pans. You can

³ Accent and focal light are used in the same context by designers perhaps because the word focal is perceived as coming from 'focusing attention' rather than focal point at the end of a long perspective or maybe because those two are often coincidental.

⁴ Feature or decorative light are also met as 'festive' or 'occasional' in the sense that they serve purely aesthetic purposes but are not suitable for tasks undertaken in the specific space. They are lights 'to be seen' and not 'to assist seeing'.

turn the lighting off so you can hide it [by turning it off]. But you don't want to turn that off. So that becomes part of this. That lighting and that lighting is all part of a room.

(Edward, part one, min.: 22:35)

In the above excerpt Edward separates light effects within space configurations, which he names 'events'. Those are mostly characterised by the containing space rather than the light intended for each one, but still there is an unrealistic itemisation of light implied since light in reality does not lie within strict borders in space as matter does. Edward also presents reductionist thinking in the quote that follows in which he declares himself conscious of which surfaces he decides to light and render visible as opposed to the ones that can remain in relative darkness. The criterion is visual importance, which he initially explains as a functional role (*avoiding falling over* etc.) but later describes as borders which delineate space, which is not a functional prerequisite.

Ed. -I don't believe in lighting floors.

Int. -Why not?

Ed. -Because you are not going to fall off of them.

Int. -But it's another surface.

Ed. -If it's a surface which has a 'visual asset', is an important surface, has value, has texture, has colour, then light it. If it's just a piece of floor, then don't light it. ...

Ed. -Unless the floor is visually important, then don't light it. There's no point. These walls, they are visually important (the corridor). They give you the constraints to space. It actually delineates space. It actually says: I have a wall.

(Edward, part two, min.:3:55)

Sean further designates this itemisation of light effects in what he calls 'layers'. For example he talks about layers of architecture and layers of decorative and functional lighting. He is not very clear about the relationship between different kinds of layers and that seems justifiable by the fact that there is no theory on the subject that he can easily refer to, but it seems inevitable for the designer to use

the term layers for different kind of abstract thinking, that completes notionally the mental image like layers of paint on a line drawings. It's another example that demonstrated that the design thinking 'is there' but there is a lack of theoretical justification for it.

Sean -Yes I was thinking it through and for everything I show, there's always a reason for it. And it's thinking about each room in three dimensions and what uses in the room... what needs to be lit...

(Sean, part three, min.: 14:18)

Sean -No you have to build in some added interest. I mean there are... particularly... you know I would call this a modern architectural house and there are principles you need to... there basic principles... of the basic layer of how you light the architecture, then you have to build on to that, visual interest and 'fun elements', you've got task lighting... So there are... you know you might have artwork to light, there are different layers which you need to combine, and then it's getting a balance of them, which would help if you have a dimming system. You could have a central dimming system and you could balance the levels for different times of day and night. But it's getting that combination, not overdoing it, it's always the key to it. Trying to introduce fun, without going too far over the top, that's the way I look at it. Other people may look at it as a blank canvas and do all sorts of wacky things but you have to respect the architecture, I think. First of all you have to understand the volumes and reveal the architecture, that's what it is: architectural lighting. Then it's a house, you need to add layers to that to make it a whole. You know, meet the different functions that you need to.

(Sean, part three, min.: 16:00)

Tina is a young junior designer with little experience but who nevertheless demonstrated strong views and a clear strategy when it came to justify her decisions. Her strategy is based on 'vistas'. On the given plans she drew points of visual interest (symbolised with an 'eye') characterised by long perspectives and developed her lighting scheme based on these. From the following quote it is evident that she deploys her design in layers. When asked to elaborate on 'layers' she talked about the architecture, but later on she also includes layers of bright or dark impression that help create depth.

Data analysis

Tina -Ah-ha. I suppose I should explain first: for the building as a whole, my sort of feelings as they were... because you've got those big open spaces that connect with the different sort of areas; you've got three main spaces. The sort of living space and then the work space which is a vertical thing and then, your sleeping area. So yeah, you've got your sleeping and working areas. Those three areas are open and you have those connecting, long connecting things. So for an overall idea for how to light the place, to me it's a case of... we don't want to lose the idea that it's a big open space. But you don't want to make that blunt. So it's all about having all those different layers of that room...

Int. -Can you elaborate on 'layers'?

Tina -Yes, eh... ok. So, for example: in this big open space you've got your kitchen area, you've got your living, you've got your seating area here - entrance hall/seating, then you got your library. So even in this big open space there are three zones, or three different areas...

Int. -So you define layers in terms of function? What function takes place in each corner of the house?

Tina -Yeah

Int. -Not in terms of lighting?

Tina -All right. No, but I sort of see that in terms of lighting as well. In this sort of space you don't want to have it a big blunt space... it's a... it will be about... So it's the highlighting of the function for each space. And always having brighter spaces and darker spaces that could create your kind of different depths. I suppose it's because of all your view as well. Because you've got all these strong views. One view coming through there (kitchen window). The way you view it from in there is in terms of layers and you different depths and things. Yeah and the same here. You've got the big space room with different functions... yeah. A case of sort of differentiating them and giving the rooms its different depths.

(Tina, part one, min.:30:31)

The two following quotes by Tony and John have been chosen because they refer to the ambient–accent duality in light effects. Tony is referring to this clearly where he replaces ‘ambient’ for general. John is talking about his design intention to create a space empty of general lighting and therefore quite dark, but in which ‘key elements’ will be ‘picked up’. Here picked up is used for accent light. Points of visual interest (the key elements) are part of his bigger plan to extend the views out as he says. John is aware that an equally bright space will diminish the distance and will flatter the visual impression of the space while objects (in this case the planting of the external landscape) will stand out and attract attention however far in the distance they stand.

Int. -OK. And, obviously, it's the same that you followed there, but do you think this effect is going to compete with this one? Or is it like, do you think it's stressed the element?

Tony -I think this is more for general light and this is more feature, so obviously they'd be circuited separately, and then you've got these, which are directional spots, to light possible art work, these one, two, three, four elevations. So they'd all be circuited separately, and that could be on the feature as well, which is just a down light in that sort of niche, 'cause that's sort of a gap through there, isn't it?
(Tony, part one, min.: 18:00)

John -So I would see this environment being quite dark. With sort of key elements picked up. A few accents and focal points outside so that we extend those views out and allow the eye to travel from inside to outside.
(John, part one, min.: 15:15)

Designers also tend to think that lighting for the architecture (or space as it is often referred to) is distinct from lighting for the people. Edward is very specific about it. The curved wall lighting reveals the formal properties of the space, while the sources that provide horizontal illumination on the working table are intended for the people who need to undertake the reading task on that surface. In a sense, lighting for people is functional lighting because it is a part of design that considers what people need to see while performing a task, while lighting for the architecture is lighting that is not related to a task other than appreciating space. It is not clear from the interviews where in this dichotomy decorative light belongs. A pendant is widely accepted as not being functional lighting but is also not part of the

architecture. Likewise architectural lighting is not considered functional but it is not considered decorative either.

Ed. -The workspace. Clearly we need to light the workspace and that's what that space is about. Is about people working. So I want to light that. When people aren't there I'd turn that off. But I wouldn't turn that off (the curved wall lighting). That belongs again to the house. What is that lighting do? And that light is working for people at that worktable but that lighting is about belonging to space.

(Edward, part two, min.: 14:59)

The design consideration in which the designer decides about the types of surface he wants to reveal can be easily considered a problem belonging to the direction and position of the light source. However, lighting horizontals or verticals very often puzzle designers at the initial conceptual stages of thinking, mostly as part of the desired lit appearance of the whole unit before the sources are decided and before technical issues are addressed. Edward, as part of his design principles, does not light floors because he believes they do not constitute 'a visual asset'. Meanwhile other designers introduced downlights as a 'sure way' to achieve acceptable light levels aiming mostly on horizontal surfaces without them hitting the verticals. Even though lighting walls and horizontal surfaces can coexist in the same lighting scheme, there is a certain notion of 'clean' design that achieves the one without touching the other. Therefore downlights' beams should be worked out, according to experienced designers, so that their beams do not intersect with the walls.

Max -So say you had no light here but this is lit... You have this, you've got this which is going to give you a glow so you don't lose the high part of the space. Then if you wanted to you put in downlights that come off... the steps here so that gives you downlights so you don't hit any verticals.

(Max, part two: 5:30)

Functional and decorative light are two opposing terms which are widely known and used in lighting. Below there are three quotes that refer to this conception of light effects. Max and Tony are well aware of the opposing characteristics of functional and decorative while Tina refers to them without being very clear on their use. She seems to mistake downlights which are placed in the thresholds of different rooms with decorative light only because they do not raise the light levels (quantitatively speaking). Most likely at the recorded moment she confuses restrained accent light

produced by a single downlight versus abundant ambient light with the functional versus decorative idea. In fact both effects she proposes are functional as they are intended to provide light for specific tasks. The former to indicate the change of areas and the latter to raise the light levels well inside the room.

Max -Functionally you'd want to get light into these. Both functionally and decoratively. Light into these niches. I suppose [unclear] to have light both sides around this detail set back in the wall.
(Max, part two, 31:31)

Tina -Yeah the 'feature lighting' is sort of denoting the function areas but there's also the... I suppose in these corridors and things, along the main routes, the downlights are there to point out the sort of particular 'connections'; an important spot, whereas in the open areas you want just functional light to boost the light levels.
(Tina, part two, min.: 5:24)

Tony -I think this is more for general light and this is more feature, so obviously they'd be circuited separately...
(Tony, part one, min.: 18:00)

As for the final group of light effects there has been little data that supports the specific kind of thinking involved. Edward and Peter are the two most experienced of the participating designers and they expressed a thinking that took into consideration the 'travel of light' in their design schemes and this appears on more than one occasion in their schemes. What makes this kind of thinking worth noting is that the idea of light hitting various surfaces and travelling through transparent objects was part of the concept; it was engineered that way for reasons that resulted from the understanding of space and because it is a much more elaborate form of thinking than simple indirect light. The more characteristic examples for both interviewees are excerpts where they refer to the bridge over the double height space. Edward decided to open holes in the bridge floor, and cover them with glass bricks, so that light travels through and reaches the space underneath.

Ed. -Right. One of the things I'd like to do is to light the bridge from above. So we have light actually coming on to the bridge. And then perhaps put some glass box into the bridge surface so that I can borrow light from upstairs to downstairs (sketches). On the underside of the bridge I could have some surfaces that could actually glow... not sure of that.

Int. -So it's like a light tube?

Ed. -It'd basically be (sketches)... So that's our bridge and up here is our ceiling. I'll bring some glass blocks which would be opal, and I would actually recess them into the concrete slab. What I've actually got is the ceiling, the bridge and the floor. That's my five meters. So I'll put some downlights up there and borrow some light through the bridge.

(Edward, part one, min.: 33:15)

Edward uses the term 'borrow' and in his sketch (Figure 5.27, Figure 5.28) he draws the double height space of 5 metres as one space which is partially divided by the bridge. It could be argued that the structural role of the bridge – which is that of circulation as well as breaking the continuity between upper and lower level – is also reflected in the lighting: one source from the top reaching the bottom after penetrating the obstacle of the bridge. Of course this is not manifested by Edward's words directly and cannot be stated with certainty. What is interesting, however, is that Peter also chose the bridge to accommodate a similar idea.

Data analysis

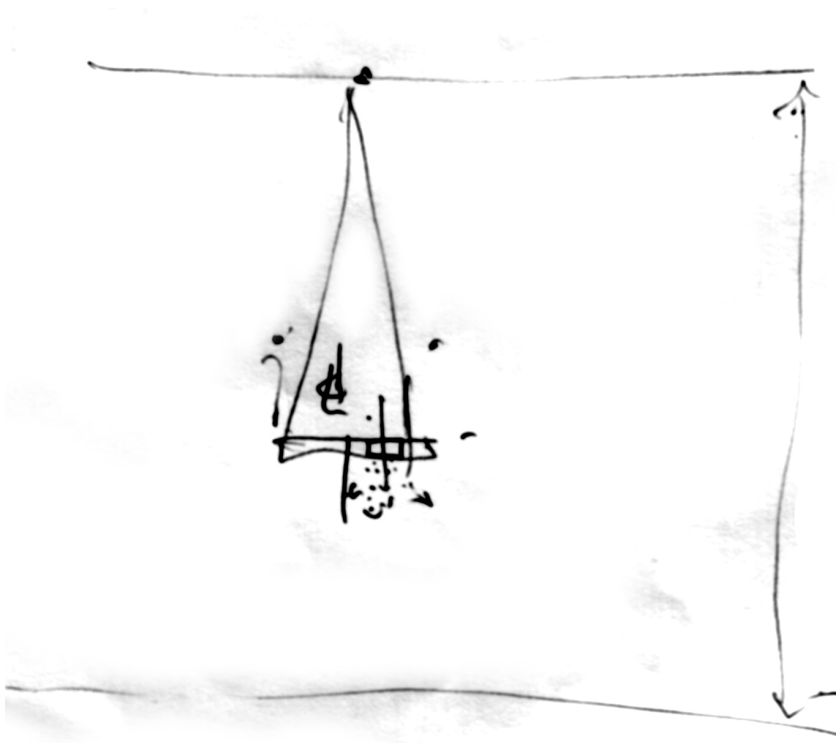


Figure 5.27: The bridge in section. Overhanging in the middle of two spaces while simultaneously dividing them, it is depicted with a few lines for the thickness of the floor and two dots for the balustrade. Edward creates a hole with a glass brick that 'borrows' light from the top to the bottom. A line represents direct light from the top entering the transparent glass brick mass and leaving it dispersed (small dots) for the lower part.

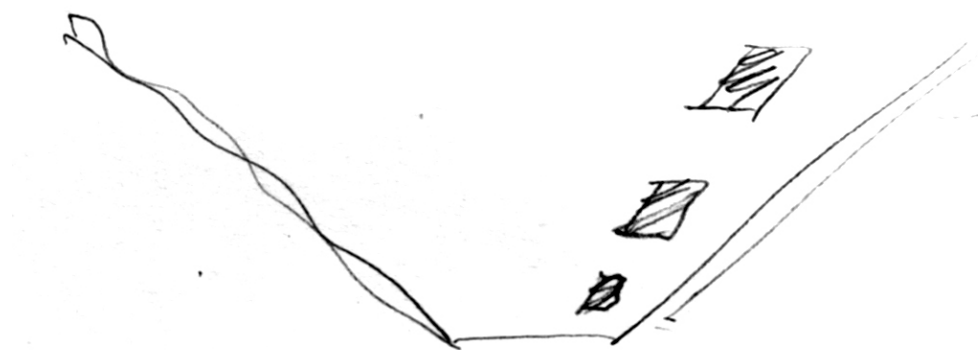


Figure 5.28: View of the underside of the bridge with the glass bricks. Edward wants to make sure the presence of the holes is in harmony with the form as seen from beneath the bridge. He also gives a rough detail on the necessary proportions of the 'holes', which automatically define the amount of light reaching the ground floor.

Peter initially contemplates the light borrowed from the neighbouring areas: the kitchen and the seating areas. He quickly decides to provide some extra light over and under the bridge area, which suggests that he does estimate the 'borrowed' light to be insufficient. He devises a solution that he names a 'sandwich' namely a structure of etched glass as top and bottom layers which carries the light sources in between (Figure 5.29).

Pet. -And you're not gonna put anything there, are you? So this is a transient space (living area). You're gonna move through this space very rapidly, so if we've got light spilling out of here (seating area) and we will have light spilling out of here (kitchen), then maybe all you need to do is to have something under there. What I would be inclined to do, since it's a short length and you imply that this is a glass floor...

Int. -Glass balustrade, not floor.

Pet. -Not floor? Why not a glass floor?

Int. -You can propose that...

Pet. -I will have a glass floor which I will then light (sketching). So, I've got my glass balustrade, since he's got plenty of money, I'm gonna make a sandwich. And I'm gonna have something in here, and that's gonna be etched, and that will be partially etched, and you're gonna get light scattered off that. And you'll get to eventually replace it but it's going to be a lot of time. And that's going to give a nice glow up here, and a nice glow down here. So it sort of covers...

(Peter, part two, min.:16:36)

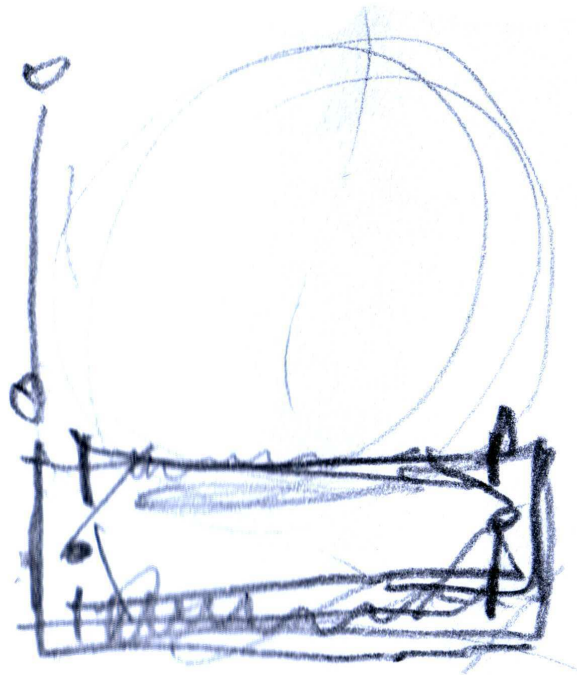


Figure 5.29: Peter's sketch of the bridge. A sandwich detail in his own words. Translucent glass on top and bottom and linear light sources (black dots) in between to graze light across the glass as well as through it for the upper and lower spaces.

Apart from the two examples above and some other minor comments from those two designers, structural thinking – at least in the way it was defined in the hypothesis section – has not been apparent in any of the cogitations recorded in the interviews. It was limited to indirect light but there was not an extensive dialogue that might show that surfaces were regarded as secondary light sources and that their role would thus change from passive to active. Nor was there sophisticated thinking that linked this kind of concept to the architecture of the given space. This could be due to the space form itself, which included translucent surfaces – these were not part of the main concept of the house. Instead most designers recognised other virtues as being central to the house idea. They talked about linearity and modernism, the connecting corridor and the properties of open plan as well as views encountered across and out of the house but not about structuralism with any directness or immediacy as being central to the idea. It could also be down to the role of the lighting designer, which is limited to lighting space rather than interfering with the architecture and the original intentions for it. Lighting designers are expected to reinforce ideas rather than introduce new ones. Therefore, one could speak of indirect light being inherent to the central spatial idea in the case of the office project by Steven Holl (Chapter 2) and lighting reinforcing this, but not in the residence given as a case study. The design objectives of the architecture were more focused on addressing the first three sets of principles, which were considered easy to translate in material terms, and neglected to produce an idea that could bring the role of surfaces and light into the scheme.

By going through the transcripts repeatedly another interesting pattern made itself apparent and whose occurrence helps complete a hypothesis on the conception and understanding of light effects. Complete images of narrative character and of certain universality were frequently used by most of the designers to describe the light effects they envisaged. Following Schön's theory of design thinking, it would be fair to name them archetypes and to examine how they were used by designers, in what context and in which part of their concepts.

5.4 Archetypes employed in the design thinking

Apart from the quest for the five design principles that were originally aimed for, other interesting design behaviours also came up during the transcripts readings. Donald Schön's discussion of the use of archetypes in design thinking was discussed in Chapter 3. The use of natural imagery and metaphorical speaking in the domain of lighting design is also familiar through the readings of Richard Kelly. Having this in mind, the repeated readings of designers' interviews revealed something that was not originally sought for. Designers do envisage effects in the form of previous experiences or metaphors. The differentiation between metaphors and experiences is emphasised here because metaphors are not necessarily experienced but do exist in the visual vocabulary of people, whether professional or not. They can both be sufficiently covered by the term 'archetypes' because the essence of archetypes is that they are equally understood and envisaged by both the people who have experienced them and by those who have not. Here are some striking examples. Edwards uses examples from natural imagery:

Ed. I love walking through the woods in the summer where you've got that dappled sunlight coming through and then a cloud comes over and it goes away and... it's exciting this dynamic and that's what I want to bring up to my house.
(Edward, part 2 min: 14:59)

Ed. I love a bonfire. In the garden... and people sit around it. Everybody sits around the fire and they all look at the light. And the light is flickering across their faces and... it's that excitement. I created that for warmth but most importantly as a focal centre. People like focal centres.
(Edward, part 2 min:14:59)

Jeff is using examples from memories of visited places or places most likely seen in photos and films, like the candle-lit church and the festive lighting of the Champs Elysées in Paris:

Je. That kind of vault effect that you get in churches where a candle sits in the bottom of a niche to light up. It would be trying to replicate that but without using candles. So that the light... there's this kind of glow coming from the bottom.
(Jeff, part 2, min:07:08)

Je. You know... fairy lights or something... it's quite nice. You probably wouldn't need it here because that's more... but in this area (middle yard) it could be quite nice to have something... I think it would look great... sort of Champs Elysées style. You know the kind of thing I mean. Something to look out on. If you are having a party you're probably going to be using that area.
(Jeff, part 2, min:21:15)

John has had experience of lighting artistic projects, so naturally he uses examples from the theatre. Unsurprisingly the first is part of the McCandless technique, not discussed in Part 1, but popular with lighting designers who even today use a combination of warm and cool tones to produce three-dimensionality – a technique that was invented due to the acute perceptiveness of its pioneer. The second example clearly refers to 'cyclorama' theatre lights.

Jo. -In this case you have an actor here, which is this staircase, so you [chose] subtle colours maybe from the low end of the spectrum: lower, warmer end of spectrum so it is going more towards amber zone... maybe orangey zone... even reds and maybe here we have something cooler but it doesn't have to be that... For example this also can be amber and reds but cooler lighter tones or you can have blue...

Int. -So the tints then help for the three-dimensionality or...?

Jo. -Entirely. That's how you create depth.
(John, part 2, min:14:09)

Jo. -I am lighting it both up and down is that I'm doing the age old 'cycle lighting' from theatre. So this is my wall then this sort of wash [is] coming down here and another one meeting it. If I make both those colours...
(John, side 2, min:14:09)

So far, the examples have been ones worth imitating, but it appears that designers use negative examples as well. Examples they would want to avoid for one reason or another. Most often the reason for contempt is embedded within the same phrase describing the example:

Data analysis

Jo. *-We have a great deal of niches. That's another tricky one for me. If I would say start accenting every little niche to me it looks like an Italian restaurant. So depending what I'm putting in there...*

Int. *-Italian specifically?*

Jo. *-Yes specifically a pizzeria! A bit cheap you know. So probably I would not light them, internally.*

(John, part 2, min: 12:49)

Ru. *-And so I guess the reason why I say that is so that they're lit, but they're not lit from the front because that would make you feel like you're in the library in college, kind of thing.*

(Ruth, part 2, min: 0:00)

Si. *-Because it's outside I'd get it coloured, nothing like mad reds, greens, blues and sort of that but soft colour... you know... leading through the space. You don't want it to appear like a spooky sort of underground but you would like it to be quite interesting.*

(Simon, part 2, min:39:59)

Many of the designers use examples from projects they have seen and appreciated, or previous projects they have been involved in and gained the necessary knowledge they deem useful to bring forth in the current situation they are facing.

Su *-I saw a restaurant where they had, they were little alcoves like this (19:50 sketching) really cute...*

Int. *-And they had a colour inside?*

Su. *-Yeah. They were really sweet. They were really small, they were kind of, this big, but they had them all over this wall, and it looked nice.*

(Sue, part 2, min: 19:50)

Suz. *-You know I always think in terms of images. When I've seen something somewhere. Do you know Allies & Morrison?*

Int. *- [Nodding]*

Data analysis

Suz. -Their main office in London, they have this staircase with integrated lighting which looks very beautiful. It's stainless steel... yeah it's steel... painted grey.

Int. -The balustrade?

Suz. -You know the outside of the staircase. It's such a lovely shape really. It's so simple, it's working so well. Then if possible I would try to continue the same idea. It would extend it here but obviously you have glass which could be... well it depends what you have here. On this side you could have fritted glass. So you can have from the edge... edge-light it.

(Suzan, part1, min: 20:14)

Sim. -It kind of reminds me of that thing that James Turrell did. Down in Yorkshire.

Int. -Which one? The crater?

Sim. -It's got this space where you're sitting in it and you watch like the day pass around you. You know the one I'm thinking of?

(Simon, part 2, min: 17:31)

To. -The only time I've done it before, really is in a ...I did a basement once, which had a sort of barrel vault and recessed into the wall were these little uplighters with a little 20 watt capsule under them, with a reflector which would sort of light up the wall like this. So basically it was set to a plan...that's the basement with the barrel vault here, I put fittings there, and there and there so get this vaulting, barrel vault effect and it looked like you know, normally, sometimes in churches you get that sort of vaulting effect...I'm not sure how you'd explain it, you get that vaulting effect in the architecture, right, whereas this was just a plain vault, a plain barrel, and the light created the vaulting. And I think that would just be...

(Tony, part 1, min: 22:54)

A considerable number of examples come from the field of the supernatural or science fiction. Even though those examples have not really been experienced in reality, they have been experienced indirectly through movies, literature or narration. Designers use terms such as 'halo light' or make objects look as though they float or like a UFO. Like previous examples they can be employed in the positive or negative sense, as bad examples or successful ones. Such metaphors want to express an unearthly feeling, to

surprise and attract awe – something away from the regular and expected. It is also astonishing that most designers seem to agree on the positive nature of some archetypes and the negative aspects of some others. A 'halo light' for example is an effect sought after and positive, while a 'UFO' would be something tending towards the conspicuous. Why is 'divine light' considered a glary white light, and simultaneously a positive light effect when it combines all the elements of not being so? Why is 'light dematerialising matter' a perfectly well-understood design intention when no one can actually define it or use examples of it? Science fiction examples make up a whole visual library of unearthly light effects, simply because they rely on special effects as fundamental to their genre. One could easily argue that most of them are exaggerated versions of reality turned into 'hyperreality' in the dystopic or utopic sense and depending on the success of the film, inherited by the audiences as archetypes experience in the science fiction world. For example the infamous misty orange light in which almost all scenes of the film *Blade Runner*⁵ are immersed, is in fact an exaggeration of the well-known municipal sodium light perfectly matched to reflect and recall urban dystopia in the film and decades later referred to nostalgically in Olafur Eliasson's *The Weather Project* installation in Tate Modern⁶. Horrible sodium light was then detached from its objective ugliness and linked to hyperreal connotations of *Blade Runner* scenes. Recently this hyperreal light became a natural one in Australia during a rare phenomenon of red dust covering the atmosphere. The phenomenon was widely photographed by amazed professional and amateur photographers who appreciated its novelty and unnatural quality (Figure 5.30).

Analysing the reasons behind those conceptions would be only superficial if it did not take into account social and cultural factors, symbolism and a basic knowledge of anthropology. This study will go only as far as stating the fact, rather than venturing an explanation for it. As far as the design process is concerned, archetypes were widely used by the majority of lighting designers interviewed, helping them to externalise their first seeds of concepts or even forming them at the time of speaking.

Ro. *-It is a barrier and it isn't at the same time. That's I suppose the interesting thing about it; so in terms of light you can make it even lighter as an element. So you could even think about having, for instance, like LED strip; oh, but they're full height there. [Unclear]... just a glow, all the way up.*

Int. *-So you could see the tiny spots of the LEDs?*

⁵ Scott, R. (director), *Blade Runner*, Warner Bros., 1982.

⁶ Eliasson, O., *The Weather Project*, Tate Modern, 2005.

Ro. -No, not exactly. Just a line, the opal diffuser form... So if this is the panel (sketching), you just have it recessed, just a tiny one, it just gives... yeah... very gentle glow and it would make it really, really light as an element. It still will be a barrier in a way.

(Robert, part 1, min: 15:06)

While saying: *it is a barrier and it isn't at the same time*, Robert is identifying the dual nature of the corridor fins. He then says: *That's I suppose the interesting thing about it*; he decides it is a positive thing. He continues: *In terms of light you can make it even lighter*. He has been considering the fins as materials, as a space element that allows a view but bars access; now he considers how light can enhance this; how to make it even lighter. Robert is using the terms 'light' and 'barrier' in a metaphorical way. What he is actually trying to achieve is to enhance the transparency/permeability of the fins by reducing the silhouette effect which he knows he will achieve by raising the brightness. The word 'barrier' actually refers to the fins and to their property of 'barring access' but 'allowing visual contact', but the word 'light' refers to its light value.



Figure 5.30: From sodium light (top left), to *Blade Runner* (film still top right), Tate Modern *The Weather Project* by Olafur Eliasson (bottom left) and a rare natural phenomenon of thick dust creating an unnaturally lit environment (bottom right). The poetic version of ugly orange sodium light. All images sourced from Google Images and Flickr internet open access

Chapter 6

Conclusions and discussion

6.1 Aspirations and limitations

This study aspires having shed some light on the lighting design process and having substantiated the verbalised modes of thinking which have been until now only intuitive. Talking about light effects as separate notions is the first of those verbalisations. This was known empirically to the author after working as a lighting designer in the lighting design industry in London. Starting off in the profession with an architectural background the author was eager to learn not just the accurate use of the English language within the lighting profession field but also the skilful illustration of presentations with photos that described a particular effect. She had both to learn the *term for this light effect* and to find an *appropriate image for it* from an image library that lighting practices normally hold in their databases. Those images usually take their place on *mood boards* and together with the appropriate captions and architectural drawings they try to give a quick but effective impression of what the lighting designers are imagining for a space. This does not only happen in lighting design. It is a popular method among various branches of design such as interior and product design and it can be argued that visuals and abstract representational methods are also used in architecture to give the 'feeling' of space before actually building it but with if in architecture the more one observes, the more he notices the qualities of a space, in the case of lighting this is even more so. But at that time it appeared that the images employed never quite suited the project because the architectural space was different every time since architects produce a one-off space for each commission. An image with uplight to a canopy was never good enough because, for example, the canopy appeared solid in the sample picture but in reality was a mesh. Or perhaps the façade was solid in the picture and in the actual space it was fully glazed, which changed the result overall. Those means might be sufficient for concepts stage but they can not convey to the client the intended appearance of the detail design, a problem that lighting practices overcame by producing lighting visuals at the next design stage. But concepts are a very important part of the design process to allow for vagueness. Even more puzzling for the author in these learning stages was the fact that lighting designers themselves seemed to disagree about the appropriateness of the image. They even seemed to disagree about the description of the effects. During the learning stage, questions about those light effects were raised and with them a very vague idea of a more thorough study. Why is light *grazing* a wall? When is a *wallwash* happening and what image would accurately describe it? Can one isolate the *effect* from the *space*? And why do lighting effects usually refer to parts of a space and not the whole room or the whole building? Is it a matter of scale, or is it because of the intensity potential of artificial light sources? Or is it because originally artificial light strove to imitate daylight entering a building?

Embarking on a task of clarifying the vague notion of light effects has had many difficulties by default. Some derive from the fact that there is little specialised literature on the design of lighting. Until 2007 there was not even a formal declaration that discriminates design from lighting engineering. In 2007 the Professional Lighting Designers Association (PLDA) published a 'Declaration of the Official Establishment of the Architectural Lighting Design Profession' (*Professional Lighting Design Convention 2007*); this was three years after the thesis was commenced. This meant that basic notions used in this text had to be defined first, for example, as was the case for the light effects which are defined in Chapter 1. Archetypes, as a very common term for theoretical architecture, also had to be defined and put in the design studies context. The method itself had also been borrowed from the general discipline of design and had to be adjusted to lighting design particularities. This means that readers might disagree straightaway with the definitions adopted in this text before even reaching the main point. Readers more familiar with art theory and aesthetics, or design studies, could possibly find many reasons to disagree with many parts of this text. Moreover, the fragments of theory quoted in this text and the ideas proposed have not been part of any formal education for practising lighting designers, some of whom are represented in the interview group. Some designers coming from theatrical background might have heard of Stanley McCandless and others might have read about Richard Kelly. Some others have an educational background in architecture and have therefore been exposed to space theories. But there is not a solid theory known to any of them as a theory of lighting design. Therefore, the thesis has relied on knowledge primarily based on lore and the reading each designer might have done on a personal basis and not on formally instructed collective knowledge. This is the main reason why the transcripts were not coded on a word-based search; nor is there a positive conclusion on the use of single words and phrases such as 'downlighting' or 'desk lighting' or 'moonlight effect', but the data analysis focused on paragraph-long descriptions of effects instead.

With regards to the method itself, the sample of interviews was not broad, with a total of 23 interviews – 20 of them finally taken into account – nor was the geographic locations of the practices varied since all five were sited in London. This is a very narrow range of practice but one has to take into consideration the international character of the present market, which allows migrating employees to carry over their knowledge into London-based practices and different schools of thought eventually flourish within them. In addition, all five of the companies involved have portfolios of various projects ranging from East Asia to the Middle East, North Africa and the Americas, so they not only import influences regarding lighting design trends but they export some as well by leaving their

style and aesthetic on every project commissioned. Whether this is happening out of necessity due to a lack of lighting professionals in the world or to the contemporary ways of conducting business in a globalised world, or for some other reason, it still remains a reality and the research eventually aims at capturing that reality. This is one of the strong points of the empirical study. All the designers were visited and interviewed in their offices, within their working environment, mostly at a meeting table next to their own and after working hours. So the setting of the interviews was not an impersonal interview room but environments familiar to the participants and as close to reality as possible. The case study was organised in this way for reasons explained extensively in Chapter 4, but it would be fair to say that the type of project was restricted and had certain particularities. A residence is above all a space expressing the personality of the user and one where various activities take place for long periods under the same roof. However, designers were asked to leave personal preferences aside and work for an imaginary client, while the number of activities was seen as an advantage in the sense that any other type of building would have led the designers to apply one type of lighting (e.g. office lighting) and because the extra restrictions of a house would cause more speculation, with the hope that a good percentage of it would end up being verbalised and recorded. Another limitation of the method employed is that the observation and recording of designers happens at a preliminary stage of the invented project, namely the concept stage, which can be responsible for removing concerns about practicality from the study. The designers are free to choose whatever solution they like because they do not have others parties, such as architects, to impose restrictions on them. It has to be mentioned that model studies of design thinking, such as the work of Gabriella Goldschmidt, who analysed the production of sketches by designers and concurrent verbal expression, as did other researchers, performed their experiments under similar conditions and the task they provided for designing was also at concept stage. The major advantage of this stage of the design process is that this is considered the most creative of all stages where ideas appear and therefore this is a stage worth monitoring and recording.

However, in such a disadvantaged knowledge field an attempt to provide an elementary base of arguments is a worthy endeavour because if the arguments are exposed to the specialist audience they can be contested and gradually revised to an improved and worthwhile result. Moreover, this study remains unique since the author has not found any other published examples of lighting designers being interviewed while undertaking a specially designed case study and their transcripts then analysed. The empirical study is therefore original for the field of lighting design and the rich material that was produced from those interviews can be put under scrutiny again in the future for other research

quests. The qualitative material collected is so rich in content that it can be subject to many interpretations; this being both its virtue and its vice at the same time. The theoretical study is no less valuable since it practically stands in the place where a literature review should normally have been. Theses tend to review the existing literature before setting out to define the knowledge gap. In this case the literature had to be assembled first before identifying the area of interest for the researcher. Recognising the limitations is part of an honest approach to research but it is also a path to more profound insights because problems and inconsistencies tend to have underlying causes.

6.2 Inconsistencies

In the theoretical part, a loose assembly of descriptive terms of light effects were initially classified under five categories that aimed at encompassing all the different attributes as they were encountered in previous classifications by Kelly, Flynn and others. The five categories (direction, geometry, illumination perspective, abstraction and syntax) were employed not because of an underlying belief in types and classification theory, which has already received its share of criticism. The five groups, which were referred to as 'sets of principles', were in fact theoretical 'constructs' whose first benefit was the limiting of the large variety of terms into something easily cited, and whose second and more important benefit was of somehow turning this volume of heterogeneous light effects into distinguishable groups that made some sense. It was expected that this 'sense' would reflect the principles according to which designers go about their task. This 'sense' could then be evaluated by reasoning based on the designers' wordings in the empirical part of the study. In other words, the five categories were the vehicle which carried the research question along the research path.

Through the analysis it appeared that designers via different ways of expression did indeed use these principles while designing. So the clustering of light effects under five groups of prominent design values has a certain veracity to it. They were concerned about the positioning and direction of the light source as fundamental to the effect created and they mentioned this in several ways. They tried to work out the geometry of light distribution to fit specific details and also considered the various points of observation and their perspective and arranged the light sources accordingly in a literal manner (Edward) or in a more playful way (John). There was also a set of ideas expressed which could be generally characterised as generic abstract or structuralist thinking. Two categories were already allowed for that. All effects that were not of a formal nature such as the terms 'ambient' or 'layers of light' were coded as 'abstract', since they provided an organisational way of thinking about light and other abstract types of thinking, some of which were mentioned in Chapter 3. 'Formal' thinking here means the shape, the visual appearance and the configuration of lit space. 'Formal' as in the sense of 'form' because, however contradictory that might sound since light is non-material, it is not shapeless. So the terms or effects or ideas that were categorised as 'abstract' or 'syntactic' thinking were less immediate, more complex and not related to the actual form but to organisation. Senior designers such as Peter, Edward, Sean or Jeff, who have spent enough time in the industry to develop their own beliefs, as they are quoted in Chapter 5, were adamant about ideas of this kind, and they were very eloquent

in expressing them before they even started solving practical problems. Less experienced designers such as Tina or Tom, as expected, were not very confident about generic speaking and went straight to applying effects in space, but this did not mean that they did not have any generic principles or specific strong ideas. In fact, Tina had a very strong sequence of approach to the design problem by valuing the major 'vistas' in the house – a term she alone amongst all interviewees introduces – while Tom was very persistent in devising a way to visually connect the two levels of the house no matter whether his proposals were successful or not. Organisational light effects are not so evident in the transcripts of younger designers because ideas have not concretised in their minds and of course formal lighting design education does not exist; therefore it cannot be expected of them. But a discussion on the level of expertise and different design attitudes would deviate from the purposes of this. Going back to the first comment about the five categories of principles, it is evident that there is a distinction between the first three (direction, geometry and perspective) and last two (abstraction and syntax). The first group seem to occupy designers' time for formal issues while the second indicates some non-visible, organisational way of thinking about light, which is not evident in all designers' thinking, but which nevertheless plays a major role in the concept formation of senior ones.

Another important observation is that the way designers argued for or against some decision, or simply their sequence of thinking, revealed a dichotomy in current lighting design thinking which often led to decisions on effects contradicting each other. The schism often ended up with the depreciation of the least established one: the qualitative approach. In addition, a new unpredicted form of expressing light effects, which is called 'archetypes', emerged from the interviews. The frail construct of the five groups was then replaced with a 'form and content' concept which seems to cover more sufficiently the above inconsistencies and, on top of that, to credit the lighting schemes with the merit of being 'art'.

As discussed in Chapter 5, the organisational thinking that designers present is usually found in the form of pairs of antithetic entities: 'ambient' or 'accent', 'functional' or 'decorative', 'horizontal' or 'vertical', 'light for space' or 'light for people'. Examining the transcripts more closely, it appears that the reasoning behind those terms is very loose. In some cases 'ambient' is replaced by 'functional' and vice versa. The same happens with the terms in the other pairs. It is suggested here that this is happening not because designers do not have a clear image of the effects they want to apply, but because there is an underlying notion that blurs the borders between those perceptions. After all, the words in their etymologic reading signify completely different things. An even closer

reading reveals contradictions, even in the use of two clearly defined and opposite terms, such as 'functional' and 'feature' lighting. As quoted in Chapter 5, Edward says: 'I don't believe in lighting floors'. But when prompted to justify this, his explanations veer between functional and non-functional arguments. He says:

1. Ed. -I don't believe in lighting floors.
 2. Int. -Why not?
 3. Ed. -Because you are not going to fall off of them.
 4. Int. -But it's another surface.
 5. Ed. -If it's a surface which has a 'visual asset', is an important surface, has value, has texture, has colour, then light it. If it's just a piece of floor, then don't light it. [...]
 6. Ed. -Unless the floor is visually important, then don't light it. There's no point.
 7. These walls, they are visually important (of the corridor).
 8. They give you the constraints to space.
 9. It actually delineates space.
 10. It actually says: I have a wall.
- (Edward, part two, min.:3:55)

In line 3 Edwards gives a practical reason for justification. Not falling off something because you can clearly see it is a cause that implies function. However, in line 5 he states that visual quality is the reason for choosing to light a surface and not functional requirements. Then in lines 8, 9 and 10 he gives yet another justification. Lit walls mark the borders of space. Is this a functional requirement (we need to see where space begins and ends so that we don't hit it)? Or is it an aesthetic requirement (we need to see the delineation of space because we appreciate it as a totality of architectural elements)? It can be argued, of course, that this is an over-analysis of some lines of explanation that are not very successful or consistent but only because in the speed of talking not everything is consistent, and many things the designers say do not necessarily reflect their beliefs and they would have amended them given the chance. However, this inconsistency is not hazardous. Many designers present examples of that kind in their attempts at justification. Many others justify this coexistence of both functional and feature lighting in a scheme as 'two different layers' which need to be

there, but which can and should be separately controlled. They usually mention that functional lighting (which is very often associated with downlights for example) is incapable of providing visual interest and that feature lighting is insufficient for tasks undertaken. An excerpt from Sean's interview is revealing.

1. -No you have to build in some added interest. I mean there are... particularly... you know
 2. I would call this a modern architectural house and there are principles you need to... there [are] basic principles...
 3. of the basic layer of how you light the architecture, then you have to build on to that, visual interest and 'fun elements',
 4. you've got task lighting...
 5. So there are... you know you might have artwork to light,
 6. there are different layers which you need to combine, and then it's getting a balance of them, which would help if you have a dimming system. You could have a central dimming system and you could balance the levels for different times of day and night.
 7. But it's getting that combination, not overdoing it, it's always the key to it. Trying to introduce fun, without going too far over the top, that's the way I look at it.
 8. Other people may look at it as a blank canvas and do all sorts of wacky things but you have to respect the architecture, I think.
 9. First of all you have to understand the volumes and reveal the architecture,
 10. that's what it is: architectural lighting.
 11. Then it's a house, you need to add layers to that to make it a whole.
 12. You know, meet the different functions that you need to.
- (Sean, part three, min.: 16:00)

Sean clearly states the role of the designer as he understands it. Architectural lighting means lighting the architecture. It means understanding the interplay of volumes and lighting them in a way that reveals the architecture (line 9). He also states in line 1 that 'building some added interest' is also part of the designer's role, which in lines 2 and 3 he assumes means revealing the architecture. But there is also non-functional lighting, which is 'going over the top' and does not 'respect the architecture'. Here Sean is probably differentiating between 'good architectural lighting' and 'bad architectural lighting', with the criterion that the former appreciates and interprets architecture well while the latter does not. Even though Sean's problem as judged from the above excerpt is not the functional and feature (or decorative) lighting dichotomy, it is the affirmation

that they both need to exist in a scheme that reveals the position that they are in fact antithetical notions.

Sean's excerpt above is not a single occurrence among the volume of transcripts; it is chosen because it is characteristic of a number of designers' cogitations on the same subject. He talks about lighting for architecture and functional lighting. Some other layers of light are implied but not named here. We keep the two that he considers essential for a scheme to work as a whole as he says in line 11. Going back to another part of Edward's interview, also quoted in Chapter 5, this set is named somewhat differently. Edward talks about 'lighting for the architecture' and 'lighting for the people'. The titles themselves can appear confusing, especially without the context of the whole interview. One can wonder: is lighting for architecture not intended for people ultimately?

1. The workspace. Clearly we need to light the workspace and that's what that space is about.
2. Is about people working.
3. So I want to light that.
4. When people aren't there I'd turn that off.
5. But I wouldn't turn that off (the curved wall lighting).
6. That belongs again to the house.
7. What is [does] that lighting do?
8. And that light is working for people at that worktable,
9. but that lighting is about belonging to space.

(Edward, part two, min.:14:59)

Edward has already chosen to light the curved wall in an asymmetric way. He then comes back to it and 'adds' lighting for the task of working, as he says in lines 1 and 2. He then confesses to the supplementary role of functional lighting in lines 4 and 5 by saying he would turn that off when the space was not occupied. So clearly Edward recognises a secondary but essential role for functional lighting. However, in yet another part of his interview we are faced with another contradiction. The following part continues as a justification that followed in Edward's talk. In lines 1-6 he justifies vertical lighting again as space navigation. In line 1 he declares that he believes in lighting verticals but when he comes across the kitchen and reading space (lines 7 and 8) he decides that horizontal awareness is more important than vertical and decides to switch priorities. From then onwards he points to the important surfaces without specifying whether they are vertical or horizontal. In fact they are both kinds.

1. So I am lighting this wall here because I am always lighting verticals.
2. They tell me where the space changes because suddenly the vertical stops;
3. so I know that something is happening around there.
4. As I get to here, I see a soft glow there (on the curved wall).
5. As I walk round the corner that wall gets brighter and brighter.
6. I am beginning to show people space by vertical awareness rather than horizontal awareness.
7. Here (kitchen bench) I want horizontal awareness.
8. Here (kitchen island) I want horizontal awareness because people are going to be sittings and reading.
9. And I don't think I need any lighting in there (living space) .
10. I've got lighting in there.
11. I've got lighting on that wall (curved).
12. I want to light that (the staircase).

It seems that for designers conscious of their role of architectural lighting, as Sean puts it, lighting the architecture is the objective so long as there is no serious task to be undertaken. If there is a task then anything else becomes a side issue. Usually the important tasks are reading, cooking and anything that happens on a bench or table (horizontal surfaces), while most emphasis is given to the reading task, probably because this is characterised as the most demanding visual task which requires the best engineered light. However, as Kit Cuttle pointed out in a recent talk he gave defending his proposed measure of 'mean surface exitance'¹ (Cuttle 2010) it seems that all lighting regulations revolve around horizontal illuminance or what is simply called in the industry 'office lighting'; but not all human activity takes place on horizontal planes, nor are buildings designed with such logic in mind. Logic like that denies the existence of architecture both as the intellectual sum of theoretical discussions over the years and as practice. Maybe this is the reason why designers talked about 'lighting for architecture' and 'lighting for the people'. Jay attributes this and other paradoxes of lighting to the change in philosophy over the years: from the triumph of positivism to the rise of the study of sensory organs and the visual system as a whole. Citing Gibson, Jay holds that the visual system enables us to perceive things which are important to us. But the last part of that phrase suggests that this is different for every person, since every person is interested in perceiving different things and that it is the role of the designer to understand what the user is interested in. But based on the above excerpts, it seems that designers are not very sure either. So the debate about 'artist or engineer' goes on.

¹ Mean surface exitance: a way of estimating sufficient illumination of a space by measuring the average light emitted from all surfaces of a room instead of measuring light incident on a surface.

Lighting designers are divided and this is reflected in both the naming and use of light effects. They are not divided into two groups supporting the qualitative approach or the quantitative approach. They are divided as personalities trying to compromise between two different ways of looking at things which cannot in fact be compromised because they differ substantially. Some are inclined more to one side than the other, but all present the same reluctance to denounce the one as that would be considered arbitrary and unprofessional and conversely they are reluctant to totally denounce the other because they could not then justify their designer's creative role in the process. On one side stands the engineer-based approach to lighting which revolves around the light produced from the source, and on the other is the human-based approach to design which revolves around the average individual and his/her body position and consequent eye level. The first could be called photocentric lighting and the second could be called anthropocentric lighting.

Anthropocentric² lighting thinking is an arbitrary term used here to signify design thinking that places man in the centre. Light is designed around him and he is the point of reference. His visual system and processing methods are envisaged by the designer. The designer places him/herself in the user's eyes and imagines lit space as walked through by the user. The position of the sources is referred to as low level, when this is lower than the level of user's eyes, and high level when higher than the user's eyes. The abstract thinking that takes place is done in the best interests of the user. The designer assumes the vistas and points of interest that the potential user will focus on and reveals them correspondingly. The architectural space is lit for the user to enjoy its limits when focusing on the background, and the objects inside it are for the user to inspect and appreciate when focusing on the foreground. The lit architecture evokes a relationship of background and foreground in the anthropocentric system, as the point of interest is not the envelope but its sense of enclosure when talking about interior lighting. At base, anthropocentric lighting relates to the philosophy of visual studies. Visual studies examine the way people see and perceive the visual environment whether one accepts or not that those processes are in fact simultaneous and interdependent. For visual studies the subject is the human visual system; therefore the object of study is the visual environment as perceived by an individual. Lighting engineering however considers two subjects: the light sources and the human perceptual system with the object being the incident surfaces. With two subjects in mind, attention shifts from the one to the other with no clear criteria for this shift.

² From anthropo- (*ανθρωπος*) in Greek for human.

So one could say that in this type of thinking there are three participating elements. It could be easily named photocentric³ lighting if it is recognised that the primary attention is given to light sources, as they are considered the primary causes of light effects. There is a certain causality in engineering lighting: an effect that begins with the emission of light while everything else is considered a consequence of that. By contrast, anthropocentric lighting is not causal but it is highly subjective as it sets its system of observation clearly: the user's eyes and brain centres. Defining it this way automatically allows that another system of observation is possible. Recognising the problem that occurs when one considers both the absolute light quantity and the subjective human perception of light, lighting engineering has devised two physical measures for the same phenomenon: luminance and illuminance. The first remains invariable for the human perceptual system (a surface is perceived as bright independently of the distance of the viewer) while the second remains variable for the human perceptual system but is invariable for the source itself. The surface will continue emitting the same quantity of light irrespective of where the viewer stands or how the colours around him have changed. This double reference system has caused, if not conflicts, at least disagreements about what lighting design should be based on. There are designers who advocate the use of luminance instead of illuminance while estimating the overall result of light in a space, while others find it more practical to use illuminance since lighting designers have little control over the final finishes, textures and colours of the project. Most of the time the clients do not even think it is part of their job to allow lighting designers to influence those choices and leave this instead to the interior designers, for large projects, or to the architect, for smaller ones.

But this conflict is also apparent in the naming and understanding of light effects. Engineers have employed photocentric lighting thinking when naming light effects as uplight and downlight and analysing their properties in relation to which surface they aim the light on, starting of course from the source. Thus according to this system we have uplight and downlight, direct or indirect/diffuse, even or uneven reflection, refraction, absorption and other words that denote the properties of the illuminating source. Terms relating to effects which do not contain information about the source but do contain information about the perception of space as a result of how light is cast can be properly attributed to the second way of thinking. For example the illumination perspective does not provide information about the sources but does provide information about the space perceived due to the specific way in which the light is cast. Hierarchy and layering of light – which are terms often used by designers as already discussed – also enhance the content of space (separating the important from the unimportant, for example) without

³ From photo- (*φῶς*) in Greek for light.

giving information about the technicalities of lighting. Naturally the concurrent existence of two systems of thinking and accounting for lighting effects creates confusion and incoherence both in terminology and design thinking. This is why there are a lot of contradictions about light effects. Uplights and downlights are terms that account for different types of fitting. Low level and high level are terms that account for two types of wiring, or these frequently used terms account for the levels defined by the eye line.

Now linking those with the responses of the designers, it turns out that even though the verbalised concerns of each designer were different, the way they processed the space in order to decide on a lighting scheme involved a way of thinking that cannot be ignored. Most of them (including Edward and Peter) imagined the space as it was depicted in the drawings and 3D model and placed themselves in the position of the user, trying to guess the areas he/she will focus on when first entering the building either as an owner or as a visitor. Then based on that thinking they decided on the possible areas they would 'like to light' involving this reduction and elemental brightness/contrast function. This means that they perceived the lighting design scheme from the human visual system (anthropocentric) point of view as a core strategy, and then developed their decisions with technical knowledge (type of sources and power, beam distribution, colour temperatures, precaution against glare etc.) Some designers, envisaging the space as if walking through it, tended to describe it as if they were talking to someone or to themselves. On the other side, there are designers who 'processed' the space in plans while mentioning that their primary concern was to reveal the architecture, but who applied effects (such as downlighting) which annulled their initial intentions but were a sure way of achieving desirable light levels on the horizontal. This reveals the division that is often met with in an individual lighting strategy and which indicates a confusion of values. Not all designers contradicted themselves in an overt way. However, discussing the level of contradiction with regards to other designer characteristics in order to establish causality is again beyond of the scope of this study. This underlying division nevertheless affects the way light effects are understood and employed in lighting schemes.

So there are two distinct ways of thinking about light effects. One is the technical way, which considers primarily the light source and secondarily the visual effect. Terms such as cove light, uplight, downlight, backlight, wallwash, translucent or narrow beam are originally from technical definitions and belong to the first group. Even though they give some information about how the effect is set up they fail to provide a complete image of it and they are more difficult to communicate; so they need further descriptions to become complete and even then, when technical drawings accurately describe the detail,

uncontrolled factors can result in the final outcome being far from the effect conceived. One can say 'translucent', but how translucent is a translucent material? Even if the percentage of translucency is measurable, say 60 per cent, one cannot easily envisage it. Very few people can say if a material they hold is 60 per cent or 80 per cent translucent. Photocentric-oriented planning is characteristic of using horizontal illuminance as guidance for measuring light 'sufficiency'. It focuses on tasks undertaken on horizontal surfaces (desk in the workspace or bench in the kitchen, for example) and the marking or planning of lights is done on plans. Anthropocentric lighting is characteristic of checking luminances of vertical surfaces (walls, paintings, facades) as they are the first met by the human eye. It is also characteristic of thinking of space in 3D models and elevations or sections and lighting according to the character of the space (often mentioned in the interviews as 'the architecture').

Photocentric	Anthropocentric
Lighting marking in plans	Lighting marking in elevations, renders and 3Ds
Checking illuminances (E) on horizontal surfaces	Checking luminances (L) of vertical surfaces
Lighting strategy according to the task performed	Lighting strategy according to the space character

Table 6.1: Design behaviours leaning towards one side or the other and typical characteristics of expression of thought as they have been observed in the interviews.

The division between anthropocentric and photocentric lighting strategies also offers an explanation for the use of metaphors and archetypes. The anthropocentric system considers firstly the human visual system and the collection of resulting experiences, and secondly the technical way to produce effects that enhance them. Terms which include metaphors or experienced images, such as 'paper lantern', or 'candle light' or 'ambient light', or 'gloomy' or 'halo light', belong clearly to the second group of light effects. Those terms when communicated provide a lucid image of the final appearance of an effect without any need for technical clarifications, because they are 'humane' in their very nature. They are icons created by human experience to be recreated for human appreciation without the necessity of a technical language to designate them.

One possible explanation for these conflicting trends within individual designers' minds is the acknowledgement that the designer's knowledge consists of his/her education, acquired experiences and personal preferences and of current trends, as discussed in Chapter 3. The fact that the intellectual tradition of lighting is based on engineering approaches, while theories of the design of light have been totally absent from most students' official curricula has left designers with no theoretical ground on which they could solidly argue against the numerical guidelines. However, it has to be said here that unofficial knowledge, transmitted verbally within practices, is present in designers' thinking in a loose sense that they cannot articulate but that can nevertheless be traced by the reader in the transcripts, and after reading the literature review in Chapters one 1 and 2. An excerpt from John's interview provides a very good example of this. At some point in his scheme John introduces a 'technique' of mixing warm tones with cool tones (allowing them to bleed through) when lighting a three-dimensional object, in this case the helix-shaped staircase standing in the middle of the workspace. When asked, John described this technique as originating from the theatre and as being successful when the designer wants to produce three-dimensionality (to give depth) for an object (actor). This is true, and it is also true that this technique was introduced by Stanley McCandless (Chapter 2.2). He also talks about lighting the curved wall from top and bottom '*just like old cycle lights in the theatre*'.

John -In this case you have an actor here, which is this staircase, so you [choose] subtle colours maybe from the low end of the spectrum: lower, warmer end of spectrum so it is going more towards amber zone... maybe orangey zone... even reds and maybe here we have something cooler but it doesn't have to be that... For example this also can be amber and reds but cooler lighter tones or you can have blue...

Int. -So the tints then help for the three dimensionality or...?

John -Entirely. That's how you create depth. I know I could create a very striking space out of this just by using things very simple things like that and leave it quite empty. Just this composition of the curved wall and the spiral staircase and make a composition with light. The reason I am lighting it both up and down is that I'm doing the age old 'cycle lighting' from theatre. So this is my wall then this sort of wash [is] coming down here and another one meeting it. If I make both those colours...

Int. -So it's like... this is on the stage, where you light from the sides?

John -Not from the sides. From top and... That's what they do. And then you know anything from lighting imitating sunsets, or any other sky condition is to be honest done like this. Allowing one colour to bleed into another.

(John, part two, min.:14:09)

Staying on the topic of designers' 'knowledge base', they also seem to draw a lot from visual studies (Gestalt theories and others). Phrases such as 'brightness advances' or 'to pull the eye out in the view' are in reality nothing more than the simplification of observations which need not be verified in laboratory studies. But visual studies have often been linked to information-processing theories (Jay 1978; Jay 2002) and these theories do not account for the subjectivity of perception. Lighting designers are aware of the visual laws that create different result, but they pursue the various results with the intention of creating aesthetically pleasing spaces or settings for future users. This unavoidably turns the subject to philosophic issues in aesthetics.

6.3 Form and content

A whole section in Chapter 3 was devoted in the definition of archetypes by Donald Schön with regards to space while another section in Chapter 5 was devoted to giving examples from various interviews where archetypes were employed in the design thinking, while in. Archetypes are more complex forms of light effects as they comprise whole images based on previous experiences, memories, cultural symbolism etc. They can be characterised as experiential. They are less itemised light effects in that sense, but they are more formal than the organisational type of thinking. When designers talk, for example, about wanting to produce a moonlight effect in the tree in the kitchen yard, they are actually talking about the direction, the colour of light, the position and the geometry of the light beam, as well as the relative intensity of light such as that found in the woods. So archetypes are more complex and more specific forms of light effects. If complexity was the sole criterion for organising light effects then the ordering would be experiential effects, followed by organisational ones, followed by formal ones. If the sole criterion was the degree of specificity, however, abstract and syntactic would shift positions. More abstract effects leave more space for creativity, which is undeniably valuable for design. Therefore a hierarchic classification based on one criterion only is very simplistic.

So far, the distinction between formal light effects and organisational ones and the emergence of a third category – the one named archetypes – resulting from the interpretation of the interview material, leave an unsatisfying impression of the initial hypothesis about light effects. In the previous section the ideological schism of photocentric and anthropocentric lighting was condemned for nurturing contradictions when it comes to design thinking and decision making in lighting. It has also been argued that the lack of a formal design education of a qualitative nature has created a prevailing quantitative tradition sprinkled with knowledge about qualitative truths that the designers import arbitrarily into their design thinking (e.g. the statement that *cool tones side lighting with warm tones side lighting enhance the feeling of depth*). With this prevailing trend, lighting has missed an important part of that theory which is closely affiliated to art and architecture: a philosophical approach to aesthetics and what this would mean in the case of lighting.

Richard Eldridge in his article 'Form and content' holds that 'criticism of art seems to be inspired by fitness between the form and the content, a fitness uncovered through an audience's felt satisfaction in their relation' (Eldridge 1985). In other words, the wholeness and perfection of a work of art is judged by the degree of joining form and

content, as well as how this is appreciated by an audience. Without wanting to support the philosophic subject of aesthetics and art in a sole reference, Eldridge's approach appears very interesting. In the same paper Eldridge also says that:

artistic expressiveness (of any form of art) on the part of a representation depends on three things:

1. *The representation's form or a particular way of manipulating the materials (words, sounds, colours, lines, images etc) of its medium.*
2. *The representation's semantic content or what it is about.*
3. *The attitude expressed towards the semantic content. (*

Both two and three are aspects of the content, broadly speaking, of the work (Eldridge 1985).

This conception of wholeness fits perfectly with the present subject and justifies the dissimilarity between the three sets of effects. It also justifies the argued role of space. In this *form and content* idea the non-material nature of light is fully expressed, with form being the lit patterns manipulated by techniques of direction, geometry and visual laws of perspective, and content being the issue of the non-material effects that strive to give a semantic content and an attitude to a lighting scheme. In a lighting scheme the semantic content is not suggested anew by the lighting designers when they are given a space to light. But they control the attitude towards the space by applying lighting archetypes which appeal to the audience and their collective experiences and culture, perhaps by creating new, unexpected experiences, and therefore providing 'meaning' through lighting.

For example, critics would be justified in praising Olafur Eliasson's *Weather Project* mentioned in Chapter 5 (Figure 5.30) as a good fusion of form and content. The diffuse melancholic orange sodium light of the installation was a form that suited perfectly the aim of providing a rather sombre dystopic urban sun in the Tate Modern Turbine Hall, giving the installation a gloomily romantic setting. The monochromatic sodium light as a 'material' cannot be praised as beautiful in itself. Nor can the idea of a representation of the setting sun be anything more than a garish cliché. So if one was to speak about the materials producing the light form, one would talk about the merging of sodium lamps at the specific distance behind the circular panel that diffuses the lights and the use of mirrors to produce the 'broken image' of the sun setting as well as the smoke that diffuses the light further while creating an illusion of mist. In addition, the space itself, the Turbine Hall of the Tate gallery where it was installed, defined the scale of the luminous sun installation so that the final effect appeared imposing. Transferring this to

the case study that lighting designers were called to light, there was also a relationship of form and content, different each time because even though the brief was the same, designers chose to provoke different attitudes from the imagined users and therefore chose to create different 'forms', thus giving different content to the space. For example, some designers saw the house as a piece of modern architecture with openness, long views, modular juxtaposition of spaces, alignments and linearity. The 'content' attributed was their effort to enhance perspective, so they chose linear lighting or continuous rows of point sources as their 'form-shaping' tools, which would be perceived as a line when seen in a long corridor. They also chose to light the yards as well as the interiors so that they could extend the views outwards. Other designers saw the house as a place to promote calmness and familiarity, seeing more its role as a residence and less as architecture, and that is the 'content' they wanted to stress. Therefore, they declared low-level lighting appropriate while avoiding downlights or high-level lighting or direct lighting. And yet other designers saw the whole experiment as an opportunity to be playful and talked about separating the open-plan space into 'events', thus acting completely differently from the first group of designers. Based on that 'content' they introduced colour and different formal tools for the different areas, trying to disconnect rather than connect the house. From this point of view it is easier to find a lighting scheme successful or not by judging the level of integration of form into content and vice versa. If, for example, the designers decided to produce a sense of familiarity but instead chose light effects that were intense, direct and more suitable for a working environment than for a house, then that discrepancy between the effects and the content given to space could be evaluated as unsuccessful.

This form and content conception is also suitable for explaining the use of archetypes while retaining the notion of light effects. Archetypes have been used by lighting designers as arguments. Justification of this choice or another is not always an easy thing to do but by offering in the discussion the image of a 'moonlit tree' or a UFO for example, designers manage to convey their intention simply because those images include the 'content' as well as the 'form' of light within an archetypal image that appeals to everyone. So moonlight is already part of the content of nature and is a desirable effect, while a sparkling UFO has the negative content of a disturbingly intense light; something to be avoided. In other words the communication and convincing power of archetypes lies in their completeness. They are examples that include information on both 'form' and 'content', and that is why they are so successful in their use and why designers employ them so often.

What is here described as 'the content' of a lighting scheme is very difficult to predict, define or judge since it is socially influenced. This part is totally dependent on the personality of the designer who as a member of society is in turn influenced by personal experiences and education and generally by the society in which he/she lives. So different effects or archetypes of light effects can be taken as negative or positive depending on the general context of the era or the culture and civilisation, or the popularity and exposure of previous works which have been appreciated by an audience and have become crystallised in collective experience as good or bad examples or even as first-time experiences. For example, colour-changing effects produced by LED sources first made their appearance five years ago and even though coloured lighting was nothing new, the colour-changing effect on flat panels offered new visual experiences to the public and was culturally appreciated as 'impressive' or 'novel' or even 'sophisticated' because of the technological innovation involved. As the novelty wore off colour-changing façades became commonplace. Since they did not have any form and content relationship with the enveloped architecture the enthusiasm faded. The new generation of projects that use LED technologies are now more sophisticated in the sense that the colours are selected to carry comprehensible symbolism; saturated colours are replaced by minimalism, while LED lamp matrices are used not as flat panels or screens but fully covering fluid architectural volumes in a unifying whole. So the collective consciousness of an audience used to seeing LED applications led to the development of new, more sophisticated contexts.

Another example which dates back to the 1950s is the Seagram Building by Richard Kelly (Chapter 2), which was built in times when the prevailing values were those of Modernism and the building itself was an icon for the era. The light effects used in that building were considered successful because they emphasised the values that were important and prevalent at that time: modularity of the luminous ceiling panels following that of the plain ceiling panels in the office levels, clean geometric shapes of backlit panels (squares and rectangles) and the evenly washed lobby podium walls underlined the strict geometric volumes by Mies Van der Rohe and Philip Johnson. Even though the light sources commercially available were limited to incandescent lamps and linear fluorescent tubes, the effects were engineered to form light effects that 'shaped' light towards 'squareness'. Of course the selection of surfaces and effects integrated perfectly with the experience of the space the architecture originally aimed at, as discussed in Chapter 2. The podium walls, illuminated against the dark lobby space, provided focus and heightened the sense of 'weight' carried from the overhanging skyscraper. No matter how lasting those ideas were, uniform luminous ceilings are not something that would be appreciated today and not just because of the bad colour rendering quality of old

fluorescent tubes. It is now considered a mere 'trend' of the 50s and 60s originating from an urge to create uniform artificial lighting in office spaces that imitated daylight, but something that also became a trend due to the contemporary lighting engineering concerns that identified uniformity as an uncontested measure of lighting quality.

For that reason, it is suggested here that the second type of light effect, which reflects the content of a lighting scheme, is dependent on the social context and the ability of the designer to address this successfully. It is simplistic to say that more basic forms of light effect such as the direction and the distribution of geometry remain unchanged, while the more complex ones change all the time because of their added semantic value. There is a mutual influence between the two groups and it is easily demonstrated that applications of formal light effects which are considered mere trends have in fact deeper rooted causes for appearing novel or exhausted. A study that would draw material from history and cultural studies could offer answers for this missing link of light forms and light contents in different periods of the short history of lighting design. The prevailing notion in lighting is that nature is the only source of light forms within contents that appeal to humans because they are biologically evolved to daylight, but after 100 years of exposure to films, installation art, urban nightscapes and other visual influences of artificially created light, it is more realistic to accept that other notions of light forms and contents have infiltrated our senses.

6.4 The intangible nature of light effects

The intangible nature of light effects might not be that elusive after all. It has been demonstrated that during the design process they are understood as lighting tools that are shaping space, organising space and reproducing generic space and light qualities previously experienced and recorded in the users' memories as positive. Those conclusions clarify and replace the vague sum of colloquial descriptions of light effects used in lighting designers' practices with descriptions which are richer in content and more useful in the preparation of lighting schemes. The direction and aiming of the source, the geometry of light distribution and the illumination perspective are more helpful to the thinking that takes place during the design process because they already contain the space element in them; it does not have to be invented. So when designers face a certain space configuration in the design process they know, for example, that certain light distributions are suitable to serve the forms given by the architects, while others are not. When facing a sequence of spaces with strong perspective and their concept is to intensify this, they also know that illumination perspective is a design principle that can help them achieve it. Likewise with the organisational effects, designers can organise the lightscapes by deciding on the active or passive role the light sources will have in a scheme, or by deciding the surfaces that they want to be dominant against the secondary or tertiary ones.

But in order to acknowledge the usefulness of light effects in the design process as suggested in this study, some conditions need to exist. Firstly, the anthropocentric view of lighting spaces needs to be a core value of the designer because this will mean that the effects planned are seen from the human visual system point of view and will be applied to architectural spaces with the same aspirations. Secondly, the appreciation of content in lighting schemes apart from the aspiration of formal perfectionism has to be pursued. Future research should focus on people's appreciation of content in lighting schemes by studying all the historical and contemporary visual influences and – unlike what is being done so far – studying the imprints of films, art and the urban lit environment should be added to the usual case study of nature and daylight.

Concluding on the original quests set out in the beginning of this thesis, namely the understanding of light effects by lighting designers and their use in the design process, all the parameters discussed above (content understandings, anthropocentric or photocentric design philosophy and education, particularities of the type of project, level of maturity, talent and experience of the individual designer etc.) influence what we call

the *understanding* of lighting effects by lighting designers so this understanding is not one-fold or twofold, but a result influenced each time by those parameters. As for their use in the design process the organisational, more abstract ones appear to part of the initial considerations of senior designers, mostly when deciding on the general strategy and approach, while the formal more specific ones are apparent in the latter stages of the concepts formation, used equally by senior and junior designers and are the ones which are most likely to be considered as 'light effects' by most, as they are more 'tangible' and itemised and have a physical presence that can be linked easily with the source, the immediate space and human subject. One important mental formation of light effects is the 'archetypes' which are used equally by senior and junior designers, at all stages of design in both a negative and positive sense. They were not included in the hypothesis but were found at a later stage to be too important to be excluded. It has been discussed in Chapter 1 that light is a subjective thing and that experienced users are in an obvious advantage to inexperienced ones. Referring to archetypes seems to be a solution to communicating light effects to the inexperienced viewers by inciting universal images that resemble those intended. But most importantly, it has been supported that the only successful understanding of a light effect is the one that includes space in its description. This way it is assured that intangible lights effects acquire specificity and applicability. So designers appear to use archetypal light effects such as moonlighting for example when they want to *convince* (others or themselves) for or against a specific choice by appealing to past visual experiences. They use organisational light effects, such as abstractive thinking and syntactic thinking when they want to *gather* together all the effects under one unified concept and link them with the space character. Finally they use formal descriptions such as downlight or silhouette lighting when they are at the process of *technically solving* a light effect and have therefore started considering the position and aiming of the fitting, the geometry of the light distribution and that of the surface and the visual impression the effect will have for the viewer when seen from a specific point of view in space.

It has also been mentioned in chapter one that the profession lacks theoretical base and the consequent rationale in comparison to the architectural discipline when it comes to justifying design decisions. The above thesis on the subject of understanding and employing light effects in the design process is in fact a *stance* on the importance of light effects as a theoretical tool that justifies the correspondence of one or more effects per spatial configuration. Light effects consist the base of the profession and the seminal field for lighting design theory to flourish. All that it takes for this to happen is their mental detachment from *light sources* - and their technical potential of shedding light in certain distributions - and their attachment instead to *space* and its various theoretical

conceptions which are abundant in architectural theory. By understanding the way lighting designers think and their various levels of thinking, a big step towards this direction is made.

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I Appendix

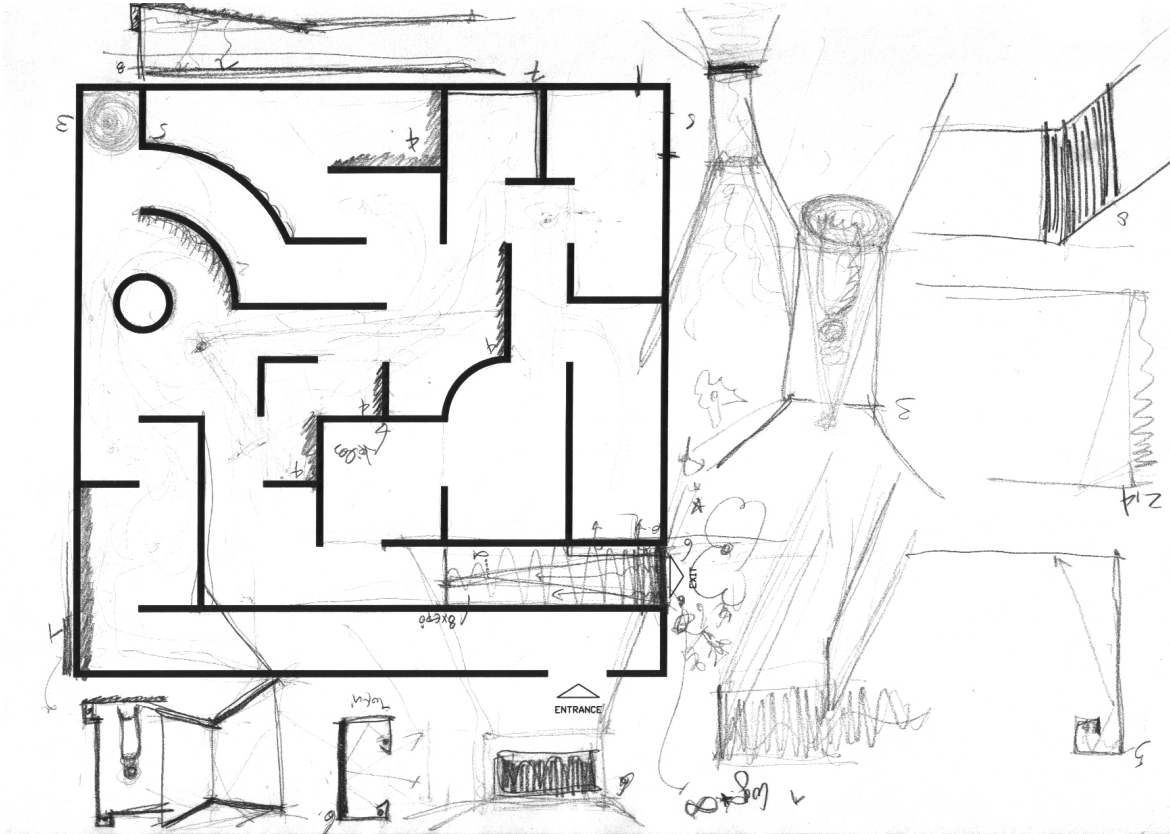


Figure 1: Subject A created an interactive exhibition space out of the drawings she was given. Effect No.5 in the upper left corner of the plan is an 'isolation spot' illuminated by a narrow spot.

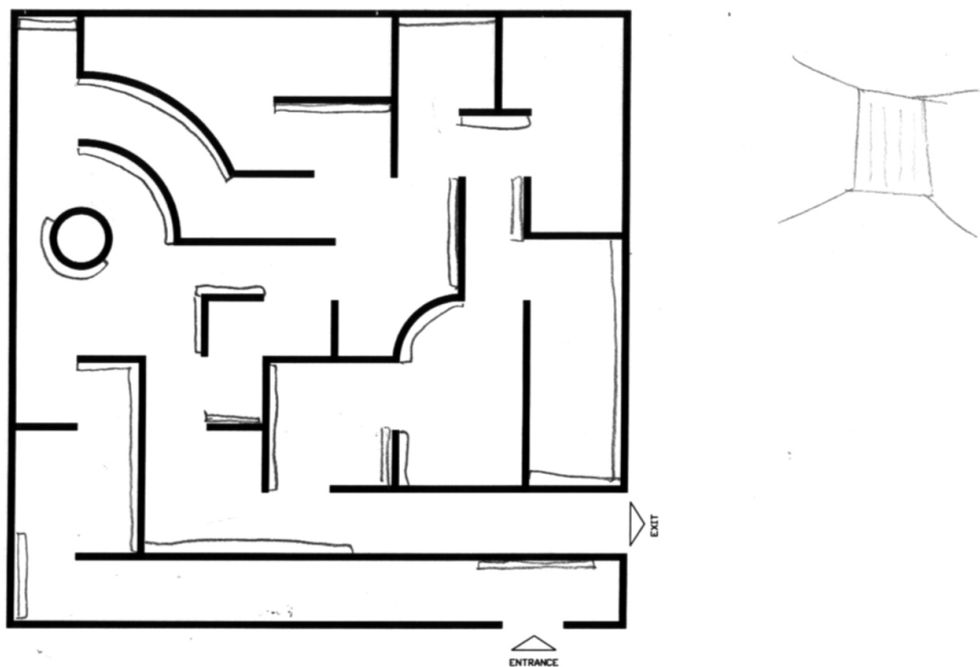


Figure 2: Subject B focused on lighting the walls. The same effect, a backlit wall, is copied in various vertical surfaces and depicted as in the sketch above.

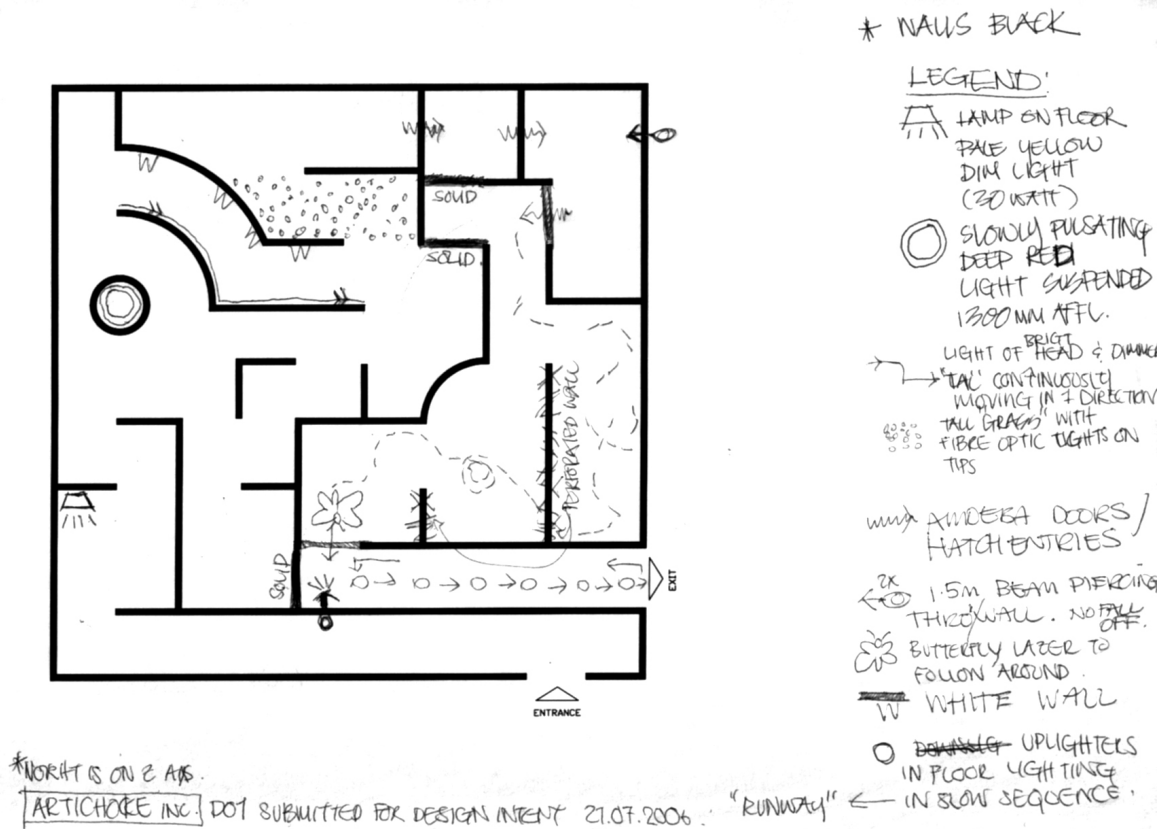


Figure 3: Subject C imagined the space as an interactive playground and created a light effect per room. She also intervened with the architecture in some parts of the structure.

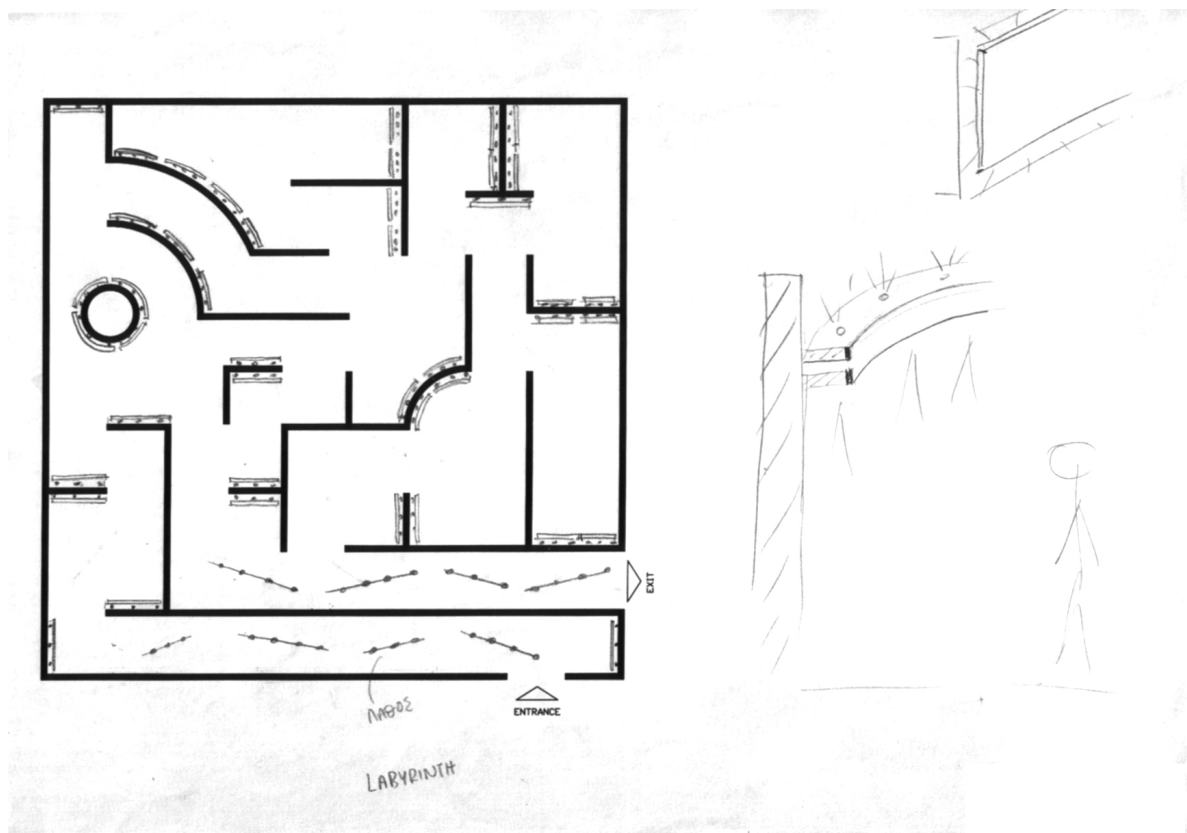


Figure 4: Subject D mainly used the same effect as subject B and added some fittings on the ceiling of the entrance corridor.

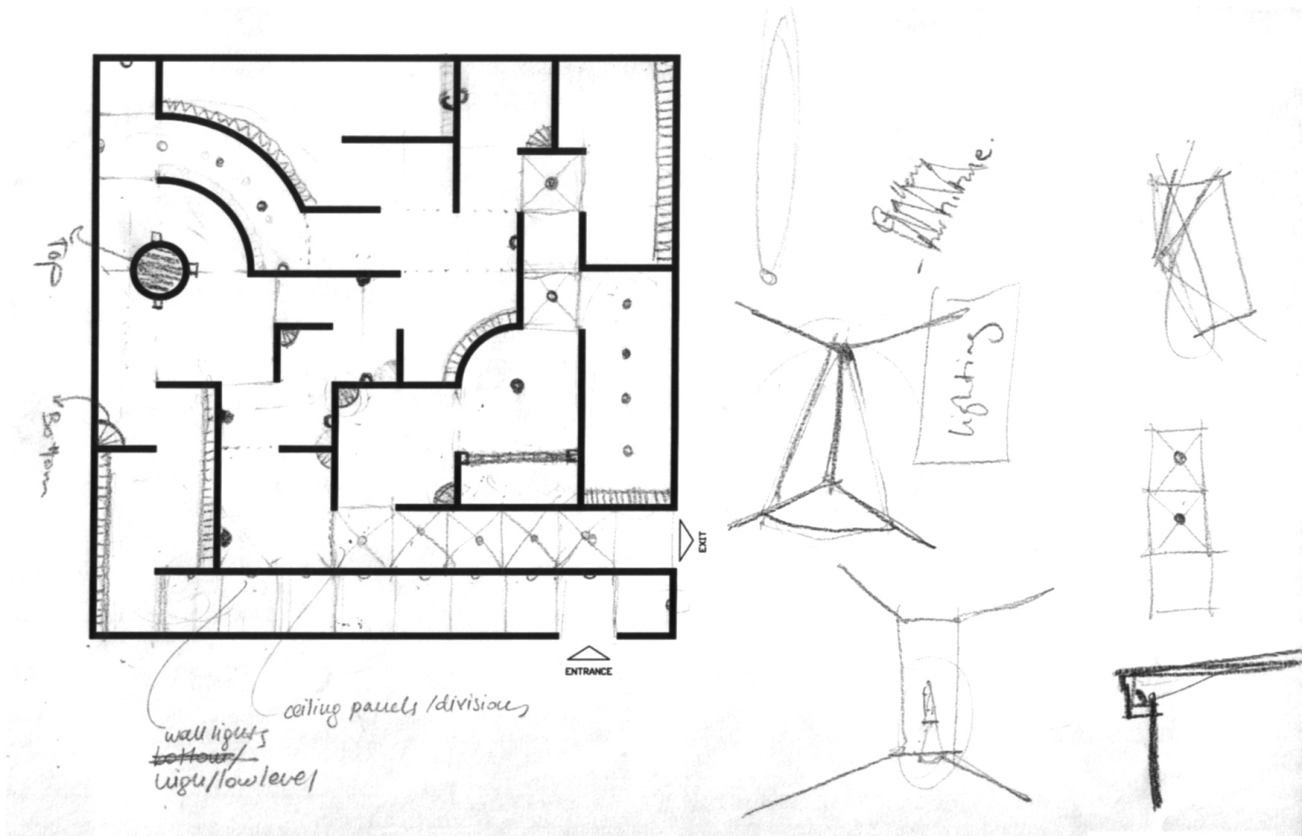


Figure 5: Subject E created a variety of effects expanding on all surfaces: floor ceiling and walls.

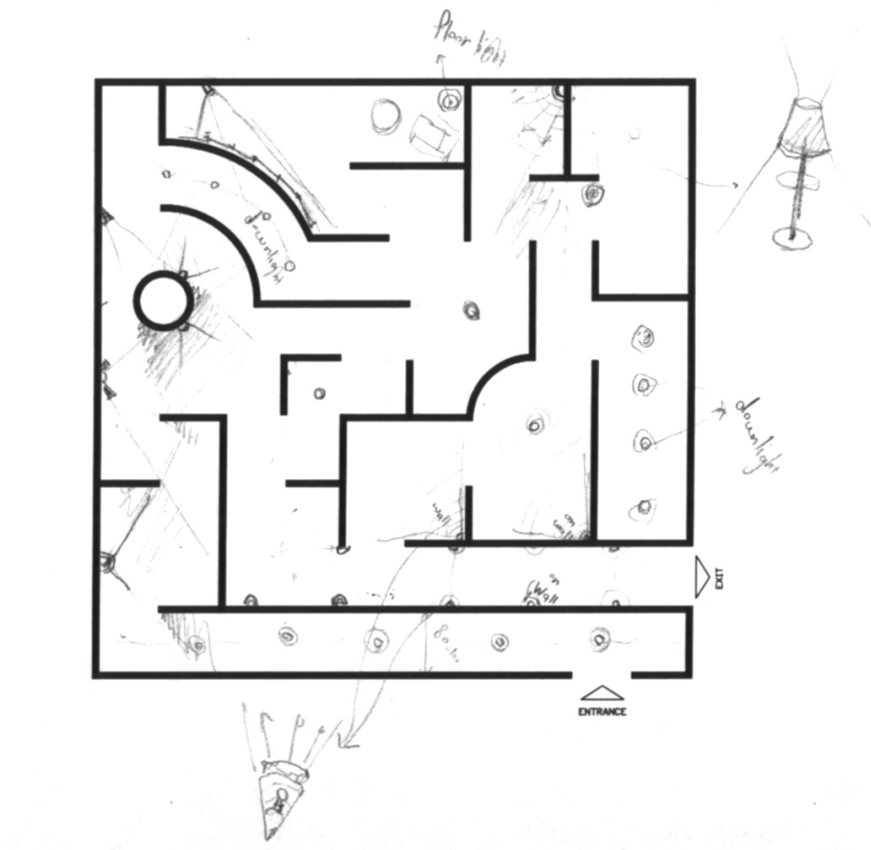


Figure 6: Subject F used also a variety of effects and on various surfaces.

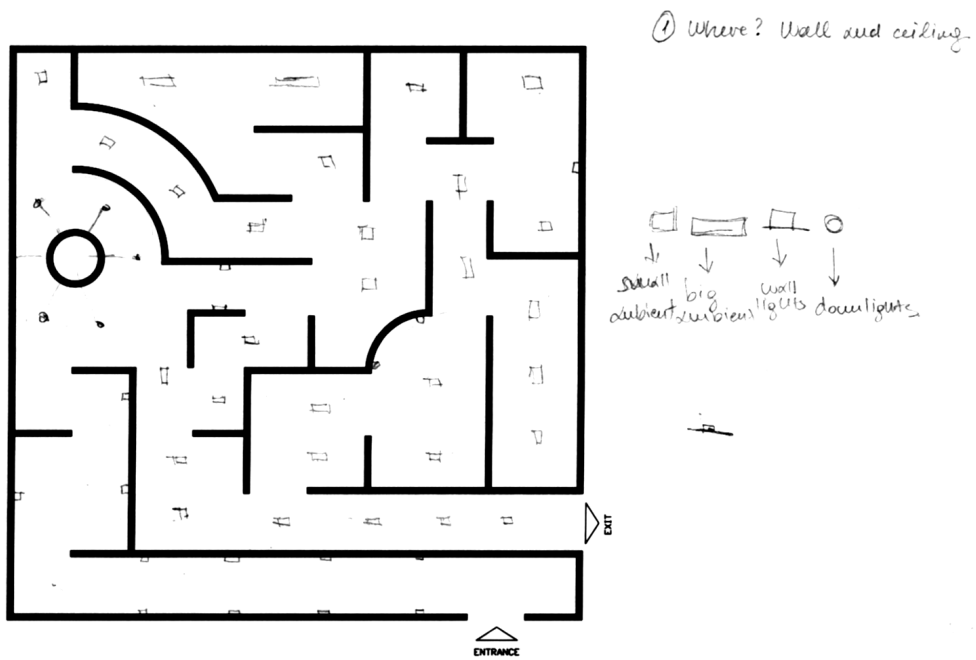


Figure 7: Subject H applied many light effects which she annotated with explanatory sketches and text but did not link them with a specific use of the space.

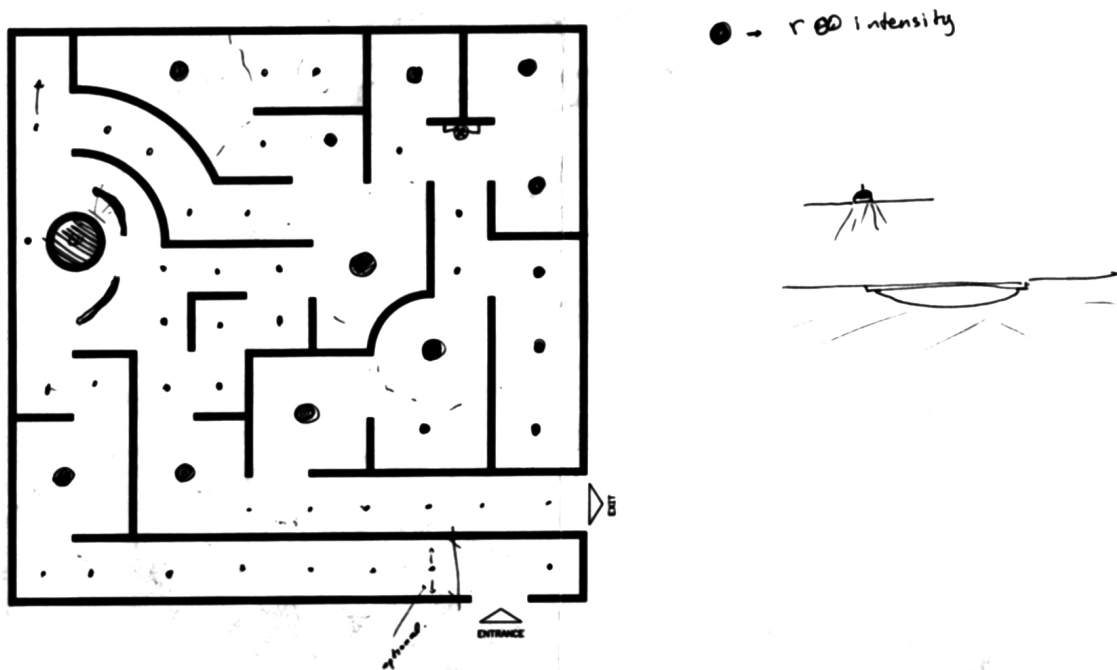


Figure 8: Subject I differentiated only between large and small fittings in sense of scale, width of beam and distribution of light (diffuse and spots). All fittings were arrayed on the ceiling.

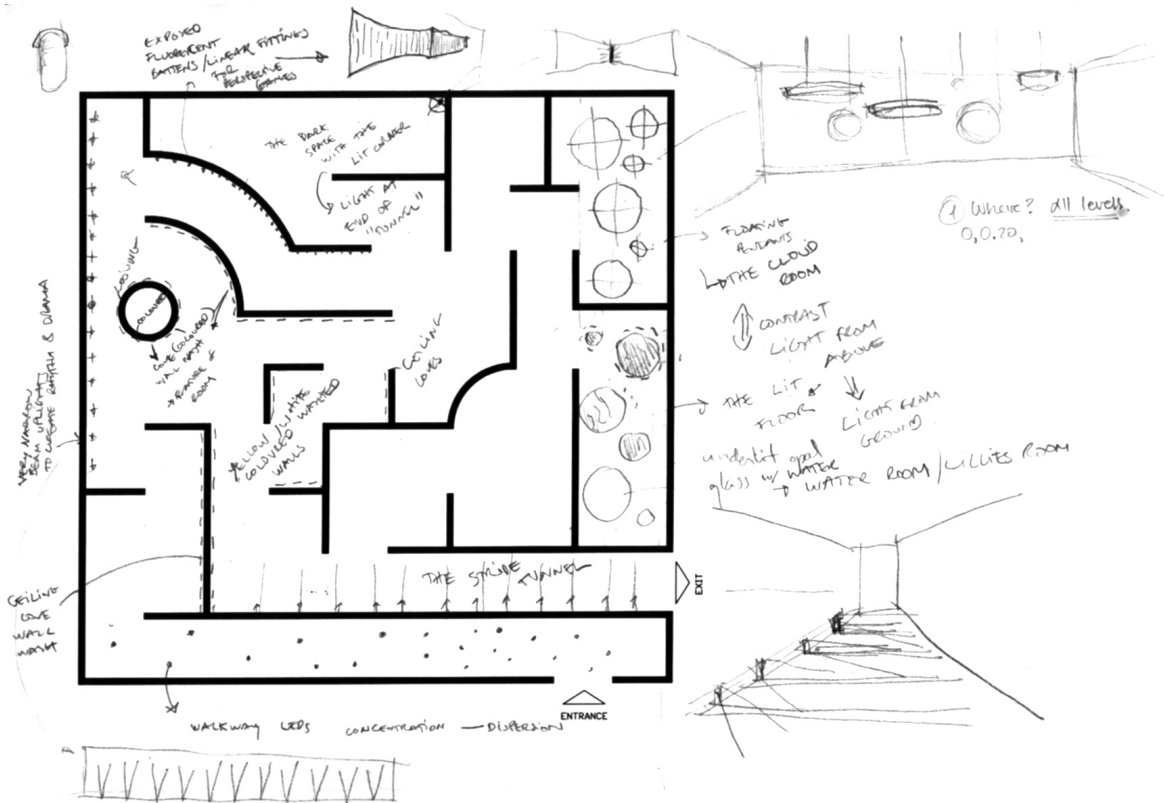


Figure 9: Subject J used four types of fittings fixed on wall and ceiling. There is some light effects variation on beam, size and direction.

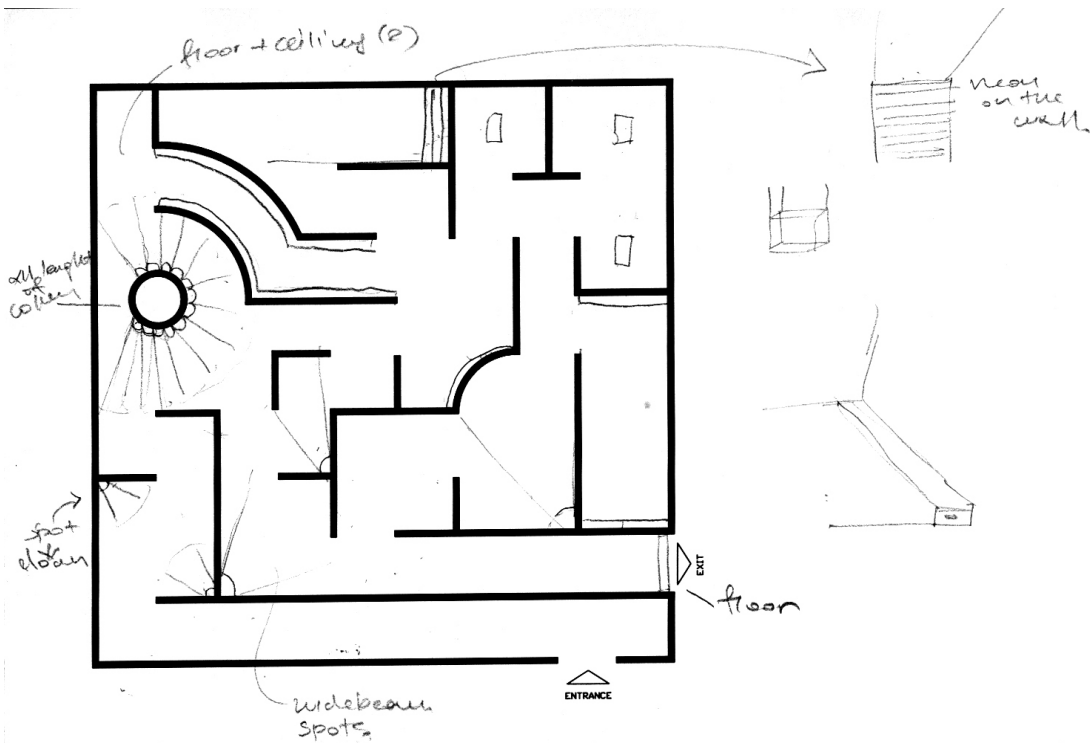


Figure 10: Subject K employed a variety of effects for the floor and ceiling but without any obvious relation to the space configuration.

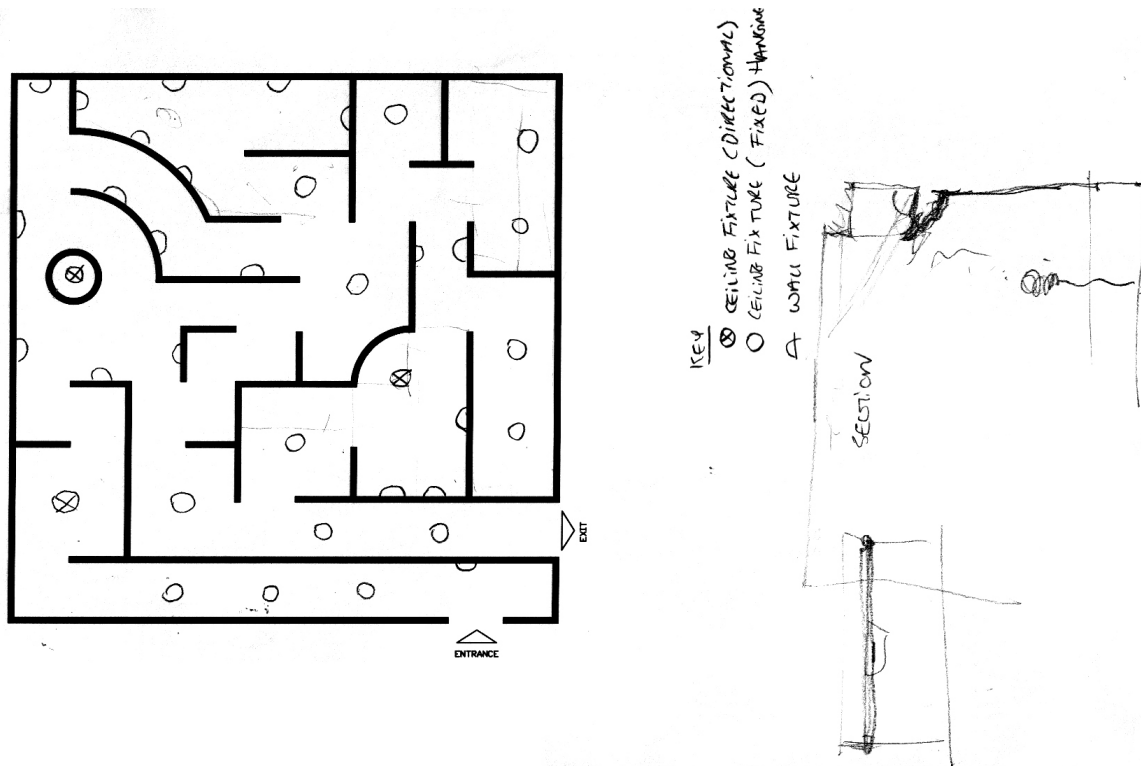


Figure 11: Subject L arrayed fitting on the ceiling regularly and annotated three types: array, ambient and directional. A classification based on beam width and on relevant distance; even though they are not very clearly related as such.

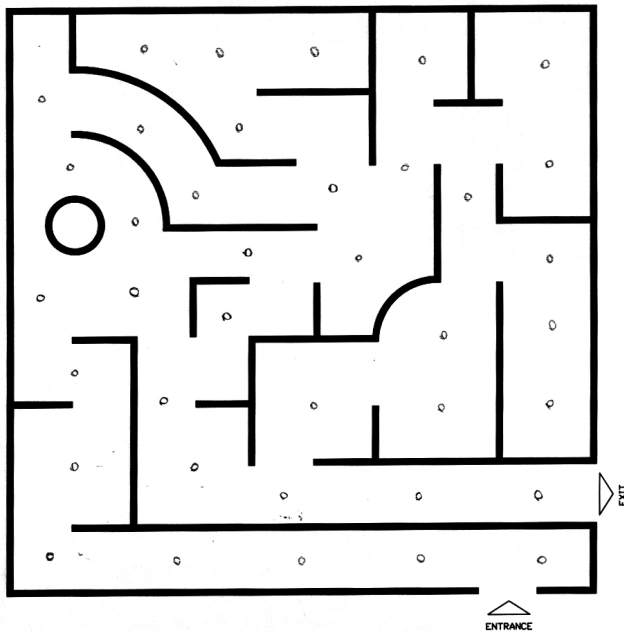


Figure 12: Subject M perceived the task as a design problem of fully covering the rooms with similar light levels. No variation in the types of source used, or an indication of special light effects.

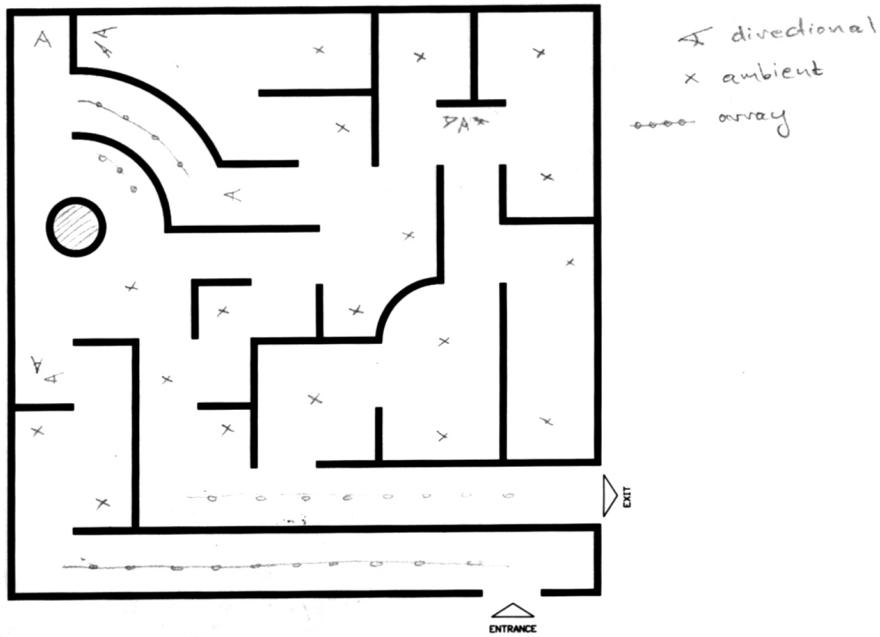


Figure 13: Subject N allowed for three common types of fittings mounted on floor and ceiling.

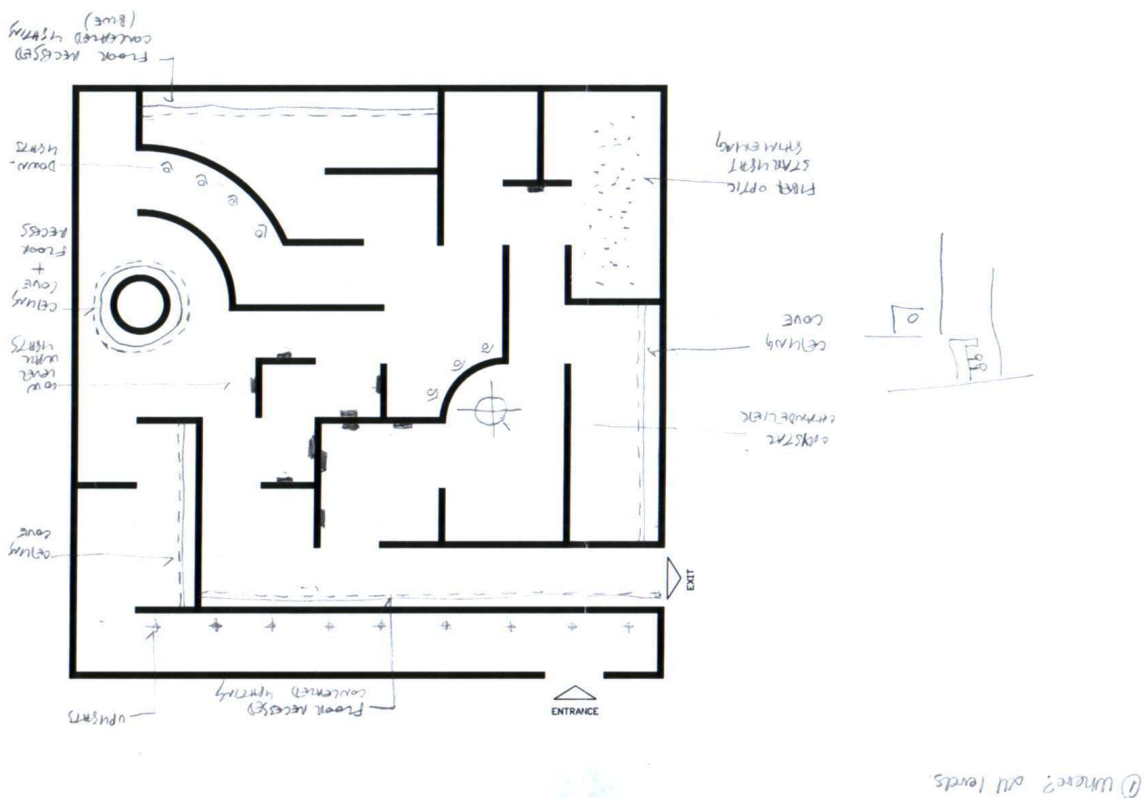


Figure 14: Subject O employed a small variety of effects but again without any obvious relation to the enclosing space.

II Appendix

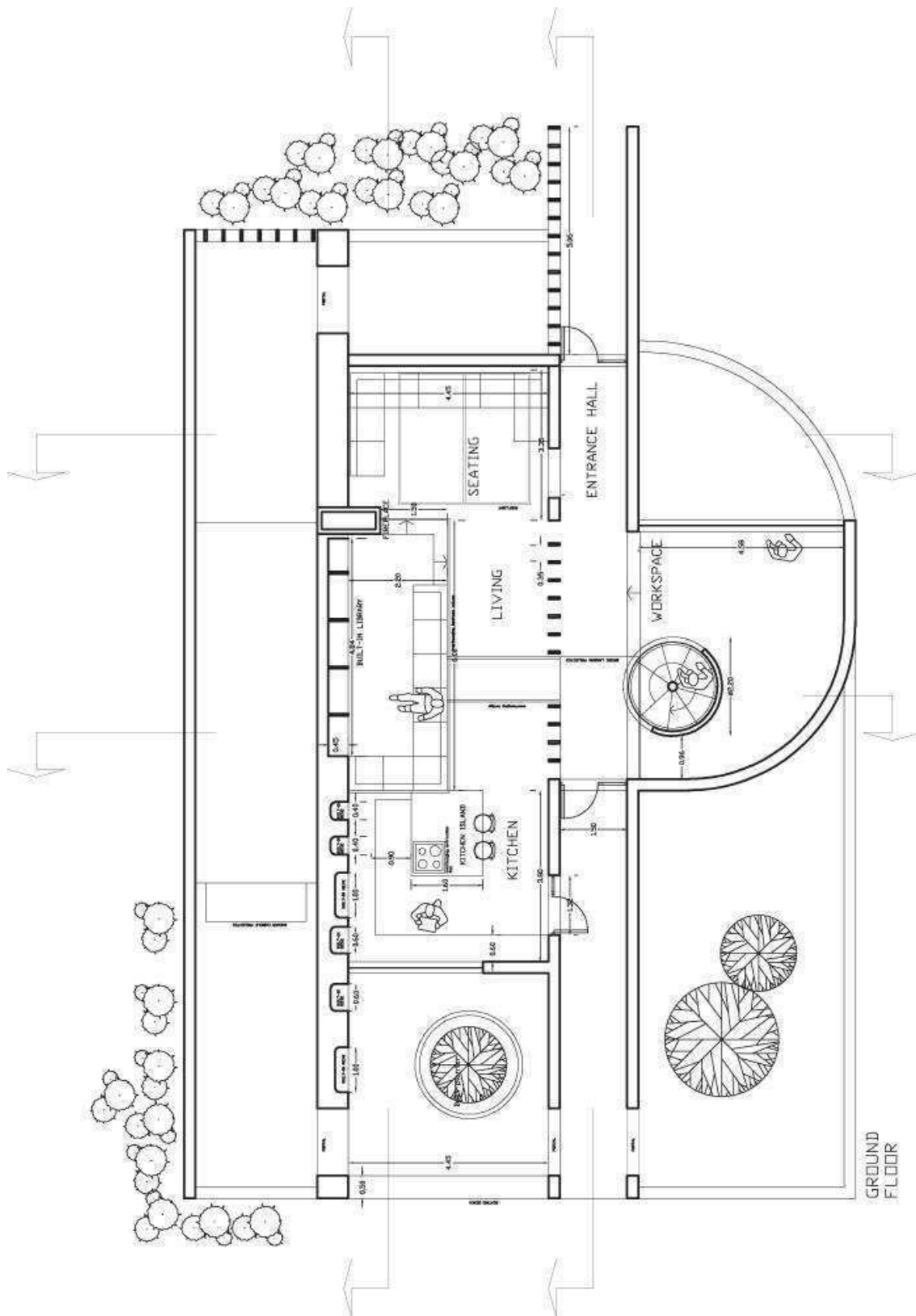


Figure 1: Plan of ground floor.

II.

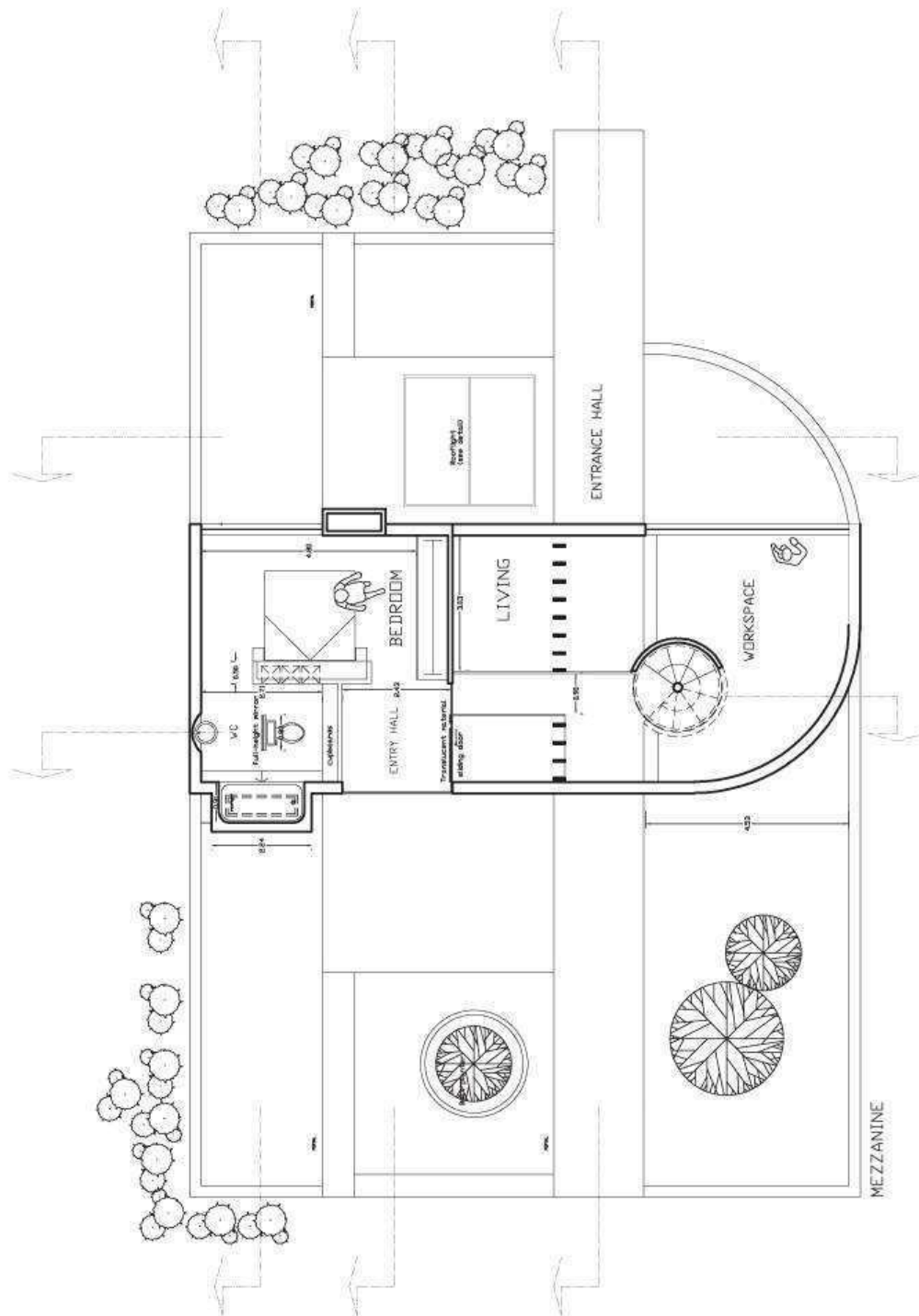


Figure 2: Plan of mezzanine.

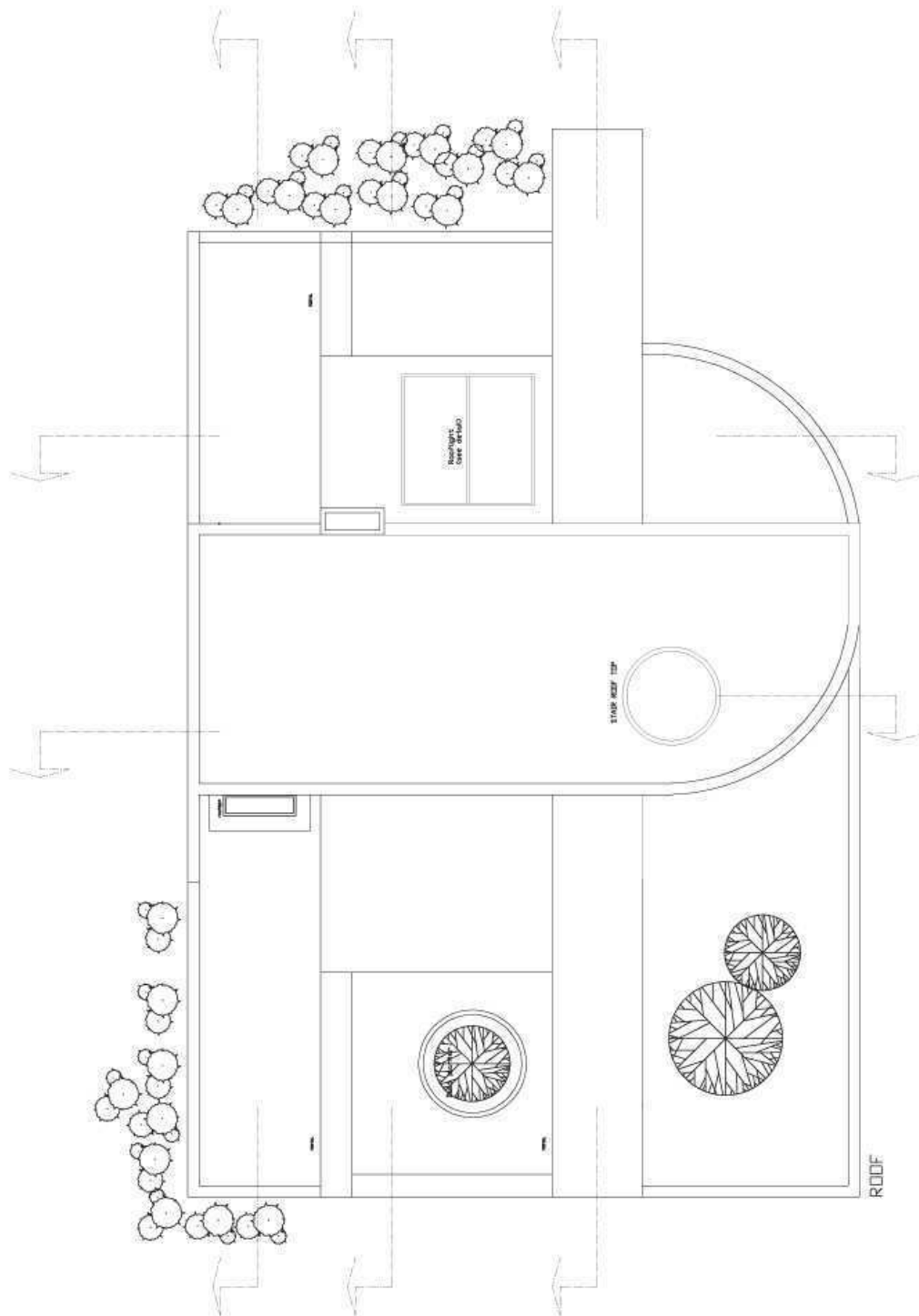


Figure 3: Plan of flat roofs.

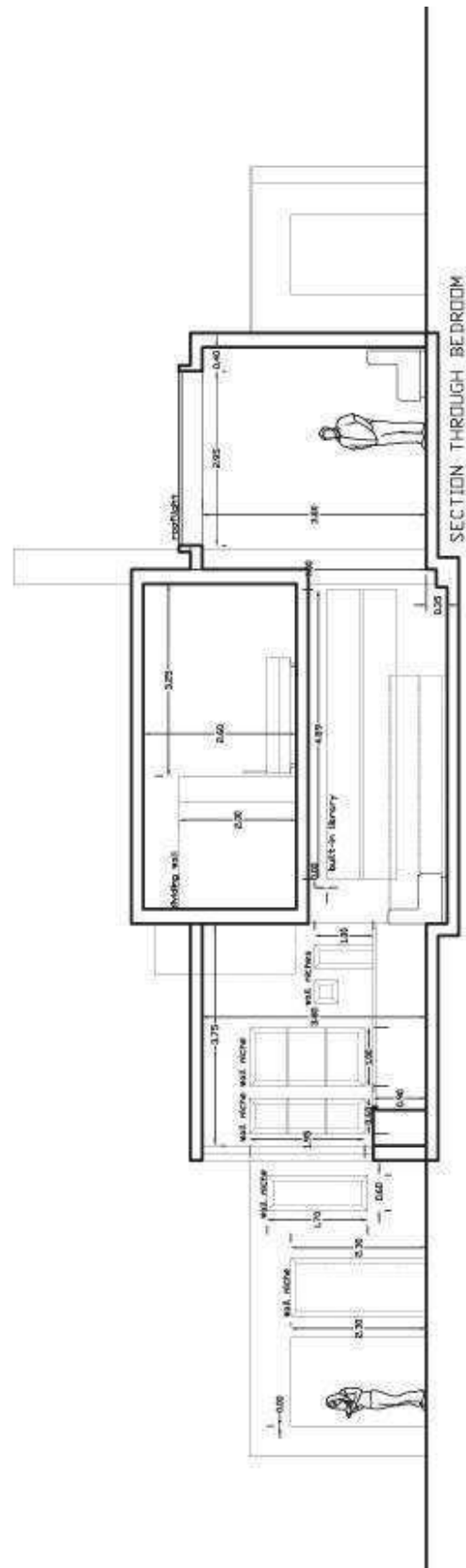


Figure 4: Longitudinal section across bedroom, living room and kitchen.

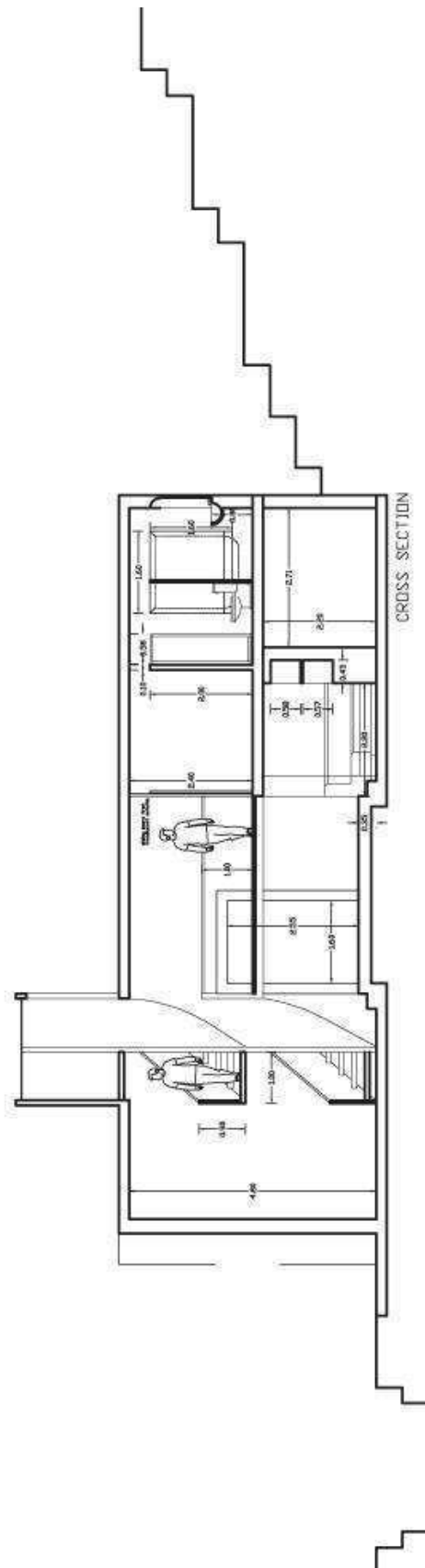


Figure 5: Cross section.

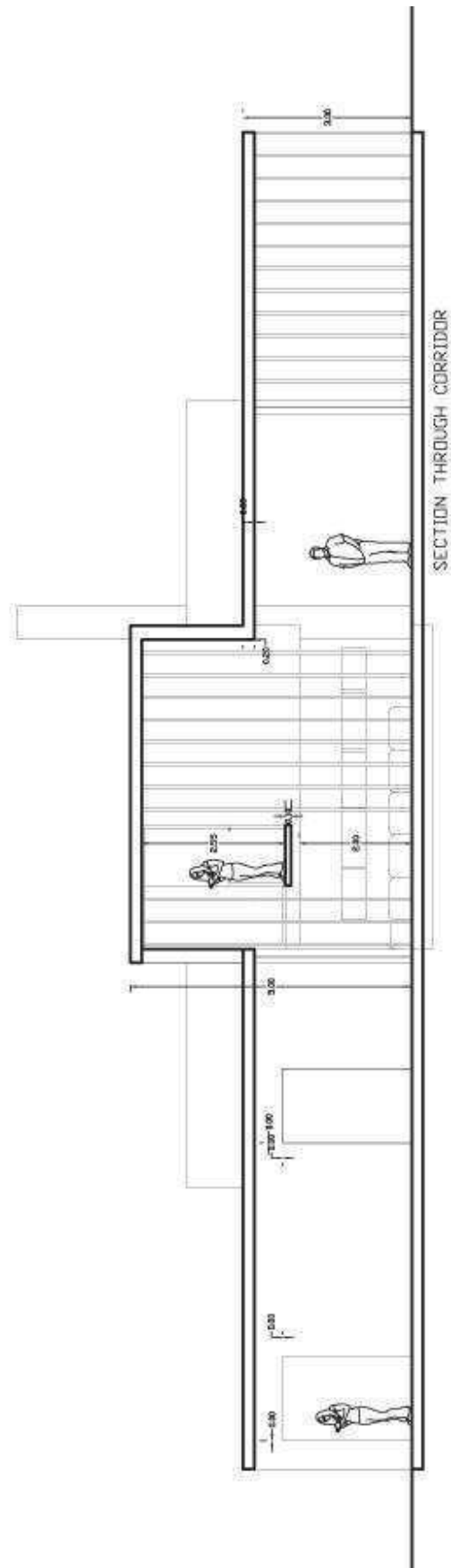


Figure 6: Longitudinal section across corridor.

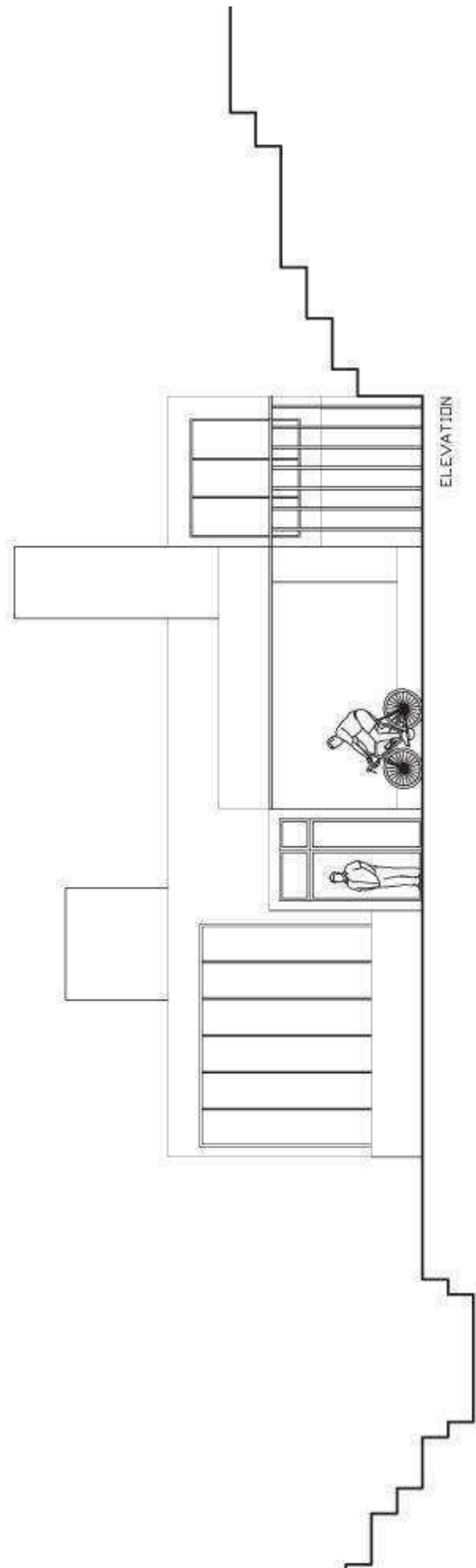


Figure 7: Entrance elevation.

II-8

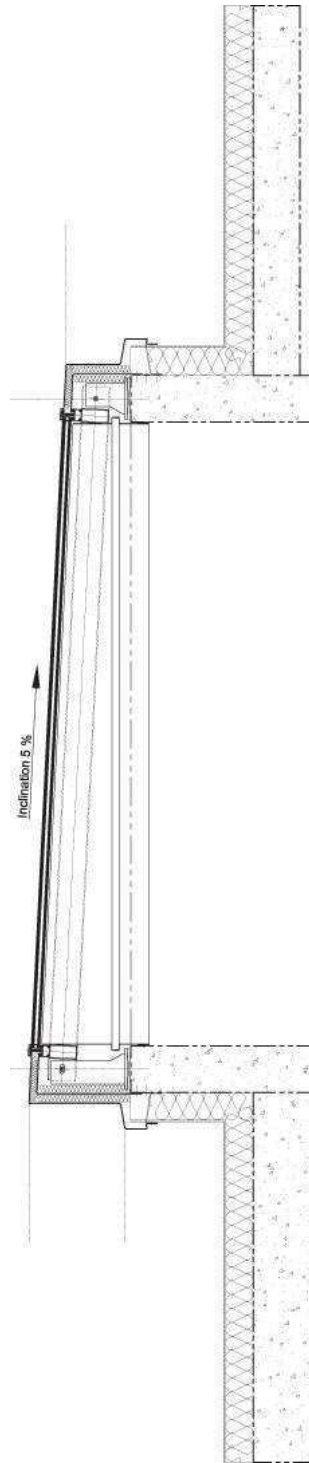


Figure 9: Detail section of skylight.

III Appendix.

PART ONE.

00:00 (Briefing takes place – Some part is lost and Andrew summarizes).

-Really what I'm saying is that I want to light this surface here and draw the eye through the surface. I think there is a few options that I could look at in terms of lighting that as a surface. I think option A would be a high-level cove to light down the wall, option B would be some inground uplights perhaps, option C would something more recessed: a slot for example within the wall. If there were the slots then architecturally this could tie in with these louvres because the slot could be the same dimension as the gap between the louvres. It's almost like a negative... within the wall. My preference would be to be very simple with it: to use an inground uplight. The reason I think the inground uplight for this corridor works is because: not only it lights the wall, but it also gets some light into the soffit as well. It makes that a sort of... quite bright inviting space. I'd be quite worried looking at this with the guides of sun path because I think there is a potential for this (corridor) to feel and look quite gloomy without artificial lighting. I think the contrast ratio between that and the external environment could be quite high so I think getting light onto the wall and to the soffit, that's quite a functional way of overcoming that sort of dark cave it could potentially get. Not only that but it also draws the eye through the glazing, right? To the space beyond. I think this is quite interesting because it takes the inside out and the outside in. That always seems to work very well... with architecture like this... deconstructing where the boundaries are.

If you get through in to the workspace, I said what I felt was that the view out is quite important. The architect – yourself – has gone to these big extremes designing this big full height glazing, the last thing to do is ruining the view out. On that basis I think it's important to draw the eye out, if you don't have light outside then it acts like a mirror. So it's important to get some light to pull the eye out. So again I think this wall here, external wall is important to light. That could be either by uplighting, or it could be wall lights, or it could be perhaps some lighting through trees or shrubs or planting that provides some incidental lighting to that wall. I'd want to speak to the landscape architect and find out what's happening there in terms of planting. If there was any planting up here.

This curved wall I think it's an important wall. I think the lighting to this curved wall has to be a fine balance, because I think if it was too bright then it would fight with the external lighting and it would start to reflect the glass and it's important not to have light reflecting on that glass because it will destroy the view out. So I'll probably keep the lighting fairly low so again maybe some inground uplights might do the trick there. It retains that common language that we set out through this entrance corridor anyway. So I think that's quite important. I'd probably then just look to, because you're saying that it's a workspace, I'd want to be looking at providing some functional lighting really. We don't know what the furniture is going to be here, except that you haven't put any furniture in. I presume that there wouldn't be a desk against the glazing, that would make sense and I presume that you wouldn't put a desk or cabinets on a curved wall and access around the staircase means that you're not going put too much around that either. So probably, the only place for desk is going to be a free-standing desk in the middle and maybe a cabinet of shelf next to this straight wall. So probably flexible lighting is going to be required so what I said is that I'd probably put some geometric array of downlights or some form of gimbals. Like a triple gimbal for example just to provide some functional lighting.

I did say also through here, this corridor, I'd probably only looking to light one side, which ties in with this. Not lighting that side of that wall. But I would light these louvres. There would be two options that I would like to speak to the architect about. First if they were solid louvre like timber or metal, or stone? Then I would look to uplight them, perhaps in a different colour temperature. It could be something that uses colour... maybe depending on what the source was... what the material was. But I would look to light those as an element running through the space as well. The other option, if it's not a structural element, would the architect or could the architect consider it being glass? Or another form of material that could take integral lighting so that it could become like an edge-lit piece of glass? If that's the case there's potential for having a bit of fun and maybe put some colour in there.

05:22 -And you said you didn't want, on that part of the tunnel, you didn't want to light both wall because...

-Yes, that's correct. I wouldn't want to light this wall. I felt that symmetry is quite nice within the space anyway. I think in order to retain the importance on this wall; we're not looking at lighting

this nibble wall there. We are looking at lighting these louvres but I think these louvres are likely to be very different material to this solid wall so I don't mind those louvres carry on all the way through. Because this wall does. I think this is the wall that's important as a monolithic wall. What I don't want necessarily is fight with that wall. So lighting both walls then might be not beneficial. But it was uplight is going to get enough light in the space anyway so it still's not going to look dark because there is going to be some incidental, reflected light on it anyway.

06:18 I think the last thing I spoke about was the staircase. There will be a number of options that we can look at. I want to investigate further what the actual structural make up of that stair was. But I think the obvious thing which works very - very well is to put some form of lighting under the nosing of the stair there. That becomes almost like a piece of illuminated sculpture within the space. Alternatively if there was an opportunity to get lighting on to the handrail, that could be something we would consider, it could be fibre optics or LEDs, or third option might be if the structural glazing wasn't structural glazing and it needed a steel work frame for example to it. Maybe there is an option of getting lighting just in the middle there, between two pieces of glass to provide some functional light to the stair. My preference would be something in the stair nosing.

07:11 And the next thing I spoke about is the skylight. The skylight over the stair I see is an important element because it's vanquering the space and also providing a feature to the space. My feeling is that it doesn't work very well with the current architectural detail. That's because it forces us to either putting a cove, directly underneath the glass which means that we get a reflection of the lamp in the glass, or it forces you to put individual light sources recessed within the up stand. My gut feeling with that, as I was sort of sketching here, was that you end up with this sort of sparkly UFO floating in the sky; which doesn't particularly well and I think it's a bit twit. So I want to look at somehow remodelling the skylight, going back to the architect and asking him: can we actually take walls and chamfer them to the side? Would they consider doing that? If they did that, hat would mean we could possibly put a cove in and by putting a cove in we are lighting the surface there but the surface that we're lighting is put back away from the glass, because the angle of reflection would need to be fairly... a long way over in order to see the reflection of the lamp and of course if you're that far over you're not going to see the glass. So I don't think this will be too much of an issue. So we can put a cove in at low level to wash up the chamfered edge. Or the alternative would be to knock out part of the existing solid wall, put the light source in there and rather than specifically lighting a surface we're just providing a bit of an aetherial glow to the skylight itself. So you're not quite sure where the light's coming from, you're aware of all these surfaces glowing. The light source is tacked quite a long way back so again we're not seeing a lamp image within the glass. I would be very worried about lighting any glass surface and getting 'lamp imaging'. I think that would detract from what to do.

Which is where I am heading with this thing, is it is very much about lighting surfaces. All of my light sources were relatively discreet. They might be in the floor, they could be in a troffer within the floor. It's much more about lighting this as a surface and this as a surface and this as a surface, than it is about specific light fittings. So I am really looking at reinforcing the architecture of the space rather than letting the lighting be the feature.

09:44 -Moving on then...

(Paul moves to the kitchen area and starts examining the niches size and structure as a capacity to accommodate light sources).

10:07 -The niches here are definitely an opportunity. That's a no-brainer. Again I'd want to have a look at the size and height of those niches.

(Looks at the elevation to get a better idea).

-Ok I think we certainly want to get lighting into those niches. That's a very big niche within that wall. Would there be shelves you think?

-There they could be putting pottery stuff so... I haven't gone to that detail. It's for storing so I guess they could have shelves.

-It's a big old niche that. Otherwise we could potentially get some lighting at high level which lights down inside of that curve. You see I think it would be nice to get some light within those niches.

-Can you detail that in a bigger scale? So they would be in the ceiling...?

-They will be in the ceiling... so I think you were saying that it was curved... a curve like that and some sort of ceiling across there. I think we should be relatively simple. I'd just put something in there that it's going to provide a bit of a glow of light. And again it might be something that's in the floor as well. It could be something even linear, to be honest with you. And I'd probably prefer that it was something linear because you would get better light across that wall. I want to tuck it away somehow. So in section it might be that you did that. If we got the architect to place that sort of pelmet across the top we can conceal a linear light a fitting which provides a nice wash of light. That sort of get light spill in the niches. If there are shelves, then again you could do the same thing. In the end it's about lighting the things that are in here. It's providing feature lighting but it's also providing functional lighting. It's not a feature for feature's sake; it's actually doing a job.

12:48 So we would be getting a nice bit of a glow from those niches. I think the view out again. I want to draw people's eye out into this space. It's quite a nice looking courtyard so I think the no-brainer is to put lighting within the tree. That draws the eye out through the glass again. So I think that's again quite an interesting thing to do. You might consider lighting this wall. That wall is a bit of a background. And as you're come through maybe you want to consider lighting this wall and this wall. But it's a lot of walls to be lighting particularly if we're looking at lighting this wall out here as well. I think on that basis I might be tempted externally to go for a wall light rather than uplighting the whole wall. If you take that wall there in isolation, I think it's probably ok to uplight it, but if you start looking at the other external surfaces, it's probably quite a lot to light and it's not a commercial space, it's a residential space. So I think it's also important to feel convivial.

-Can I just ask you why did you select the specific wall? Is it because you considered the views as you go through this door?

-I think it is; it's yes very much so about the view. Obviously when we look at the 3d model, this is quite an interesting curved wall... I think you would want an outward facing space as well as an inward facing space. I think if you've got niches here anyway you don't want to fight with those in that wall so you need to provide a little bit of an aetherial light or a little bit of a background light. So if we're lighting this tree we're not going to get an awful lot of light. I don't want to make huge bright surfaces; I would be tempted almost to put a wall-light. So I'm just providing some form of lighting to that wall. That might be something for example... if that was a typical wall that was a shielded light source, it could be a solid shielded light source, but this provides a glow of light and then you have another one. So really what we're doing is just getting a bit of glow of light on to that wall. Just provide a bit of background illumination, nothing too major. And then we're definitely not competing. Also I want to be lighting those trees there, for sure, and again I think I would be looking at putting those wall lights on this wall; the background wall. So we're not starting to fight with this as a whole picture.

16:00 So otherwise... kitchen-wise...

(Paul apart from the niches which he has already decided thinks anew on the space configuration and looks at the model again).

-So there aren't really surfaces as such except the horizontal surfaces...?

-Except that wall there... which has the exit door of course.

-Yeah. And it's double-height isn't it?

-It's four metres.

(Short clarification on the elevation heights. Andrew spends a few more minutes thinking).

18:32 -So those niches are quite dominating the space. I'd almost be tempted to not do an awful lot to the kitchen. Perhaps look at some form of profile. Maybe I also want to light the functional surfaces. So perhaps I'd put a bit of profile in there which will get maybe some downlights within it. Wherever they are. And maybe in between you've got a fluorescent module. Something like Modular 'free-way' for example. So it's providing some functional lighting, that's the fluorescent, plus a bit of modelling because it has some spotlights within there. I think we need to do that directly over those counters and I don't think we need an awful lot of the walkways. I think the

fluorescent lighting is going to provide enough light within there. We just want to make sure then that we've got enough light on the kitchen island. And that could either be in the form of something linear again, or it could be just a geometric array of downlights. We need to just make sure that we get enough light to... Depending on what we are looking at doing on the worktops we can try and get some lighting to the worktops. If it's a marble worktop for example, if it's an onyx one to try and backlight I suppose... It might be a bit much really...

-So if it's onyx then you would...?

-Yeah put lighting underneath it... The question I'd be asking is...

-Plus these pendants?

-I would almost... wouldn't have those pendants I think. I think I'd have this as a ceiling recessed. It could be like an 'L' shape. I quite like the fact you have that big high volume, so I'd almost be tempted to keep the lighting there and not compete with...

20:31 -Ok.

-You could suspend a series of pendants over that. But I like the fact that you have this big double-height glazing. I don't want to bring that down any more. I think you've got this big extractor that drops so I don't think that you'd want to drop anything else over this island. You could look at some low-level lighting around the edge underneath the cupboards and around the island unit. And it might be nice at night for example so you've got... as a detail... your worktop, cupboard, so you create the forms of a cove at low-level. Some linear which just lights down the floor. I'd want to know what surface the floor surface would be. If it's a specular marble then I don't think it would work because then you'd see...

-You'd see the image.

-If it's a surface like stone; I think it would work ok. I might be tempted to only do that on the island unit. Which could be interesting and not do it on this counter.

(Andrew talks about the make of the kitchen island and how options of lighting under it would look. With a low-level cove if it was solid or with a light source underneath if it was free-standing. Finally picks up the exit door in the kitchen and proposes some wall-lights, Modular square moon or the possibility of having artwork on that wall. Even kinetic lighting. Andrew then moves to the bridge/living room area and asks clarifications again for the backside of the library seating. He decides to put gimbals with directional lighting for functional purposes).

26:32 -Something relatively low-key to provide some ambient light as it is required underneath that bridge link; nothing too fancy at all. Maybe a gimbal. So these might be 35 watt and these might be 100 watt sources, for example.

-So they are narrow beam or white beam? So there are pools of light on the floor?

-I'm not worried about pooling. I don't think you want to be overdramatic. I think you've got lighting in here. I just think you want to provide a glow of light underneath that bridge link. I don't think it needs to be overdramatic. I think that fact that you're lighting these surfaces, probably is enough.

The living space is a bit of no-brainer. You almost certainly want to have lighting underneath the steps. It's again a stair-nosing detail. I think you've got library shelves; again, you almost certainly want to include lighting in to these shelves. Again I'd be asking, can these shelves come- can you put something in the nosing? - with some lighting to them. Or we can illuminate the shelf. But I think it's important to get lighting to the actual books than the articles themselves. That then will provide a relatively good glow of light. There is some nice light coming through that. I think as a library space you want to feel cosy and inviting and warm. In many ways it would be nice to put floor light here that this isn't the space for it at all. I would almost be tempted to think if we can get a cove in here with some kind of donut with it. The 'L' shape mimics the furniture perhaps. In section you want the ceiling as that (sketching).

-Is it just a cove or one with a diffuser?

-Yeah. With a fluorescent source inside. I don't mind the fact that it doesn't have a drama with lots of directional spot lights. If this was in the UK we'd obviously have Part L to think about anyway. Energy efficiency, sustainability to consider... It gets some nice low-energy light sources in there as well. So whether that was an 'L' shape or whether it was a square donut... I think I quite like the idea of being an 'L' shape. It just sits over the sofa. But I think you'd want to provide just a very soft background illumination.

(Finally Andrew proposes low-level convivial lighting as he says; namely floor standing light, gives the example of Floss Arco that bends over. Makes also a sketch of that. Summarizes once more the light sources that he put there and moves on in the living space. The living space he envisages as an 'L' shape and he is being directed to the ceiling difference. He starts with floor-lights in the corner).

31:18 -It brings the light down to a kind of low-level. Bring the eye out into the space. Depending if that was a permanent seat, is that's a built-in joinery could we maybe get some lighting into back of it? To create something like a pelmet? To put some light up? If not, then maybe we could look at having some lighting on the wall behind? Maybe we put some wall lights in it and see what the architects would think. And otherwise I'd be tempted to put in... in fact I can't because of the skylight, can I? I think through here some downlights maybe it's a gimbal. It sort of starts to blend with the living area and the kitchen space together. So I'd be running a couple more... nothing so fancy. You've got lighting between these louvres anyway. It's much more of a transition space than it is a living space anyway because what you're going to have is...

(Andrew puts an extra use to the middle living space. That of a dining table and chairs and imagines that flexibility is needed so he adds supply only for a potential pendant. Puts lighting to the skylight in the same way as the skylight over the stair. He discusses the solution of hanging wires and low-voltage fittings hanging from the skylight but dismisses it as soon as he say it as imposed to the structure. So he summarizes the first floor lighting. Moves on to the external underpass and copies the front wall lights to the back wall).

36:04 -I'd carry it on again to draw in the eye through. Uplighting I think is retained to this element here (the corridor). The more I think about it, it's wall lights in the exterior space. I might be tempted just to put a little bit of low-level lighting through some of these. What you're not showing on the plan, which is interesting, you've shown it on the 3d, is that you've got these terraces running back.

-It's the landscape...

-Ok. I'd be looking... I would want to get some lighting into that as well. I think it's important that when you consider a residential space, not to just consider the building. You need to consider the location and the context within. Much like in architecture

(Elaborates on the last ideas and part one closes).

PART TWO.

-If I had to sum it up I'd simply say it's about lighting surfaces. I think the style of the building as it is, it's quite modern; I would want to reinforce the architecture and not compete the architecture. So I'd be always looking at the surface that I want to light and how I want the space to feel rather than specifically what the light fitting is. I think if this was a 19th century townhouse in a little village the I think it would be a very different treatment.

-How would you?

-Well I think... it's more of a traditional approach, a lot more pendants, a lot more about the look of the light fitting, accepting that the light fitting is going to provide a general ambient to the space.

-So what makes you make it more integrated to the structure?

-It's the architecture. As a lighting designer I know you don't want people to walk in and go: wow the lighting is great. I want people to go: the space is great and I'm there to reinforce the architecture and to highlight architecture, but (also) use the architecture as a device for making

Andrew

the space feel convivial and welcoming and homely. So if we can do that and integrate the lighting...

-For a traditional building...?

Paul to that repeats as above.

PART ONE

-So, what do you think?

-It's a nice space. Hem, I like the views. I am interested in... (The fact) that we have a view there. That's transparent. I also like the fact that we've got transparency there. And we've got portals. This immediately suggests to me that the outside belongs to the inside. We need to give as much consideration to the outside, for people living on the inside. In fact what happens is that the glass disappears. So we have transparency/making brightnesses in the outside. So I would certainly be looking at lighting this, and maybe light that wall. I think that one is an important one. I think lighting those recesses and lighting the tree, is important. And I think to be able to light this event from there onwards, it is important. So all of those can belong to the inside. I think dynamism is absolutely essential. So the ability to be able to change the scenes. So we can change the inside sees and the outside sees. So that if you're sitting outside... that you can take the inside levels down.

12:50

So I think lighting controls is essential in this situation. I mean it's clearly...it's not standard housing. It's housing which has got quite a few... quite expensive and therefore putting dynamic lighting should not be a problem.

-Yeah. There is no budget limit.

-No budget limit ok. So lighting these events externally and lighting some of that landscape is essential for me. Lighting that corridor so that that can be seen. I mean if we stood at the front door we could see right back through into here. And that (pointing) should not limit us. So the brightnesses in here can be kept down so that the brightnesses in here could actually allow us to see through. It doesn't mean that we can't change that. If we bring these brightnesses up and reduce those brightnesses. That allows the scenes inside and outside to change. So we basically have different events seen, depending (on) how you feel in terms of how you're living. So if you got guests round you may want to have just one scene. If you're living at home just doing work, you may operate different types of scenes. We don't have ceiling here so these would have to be ground recessed...

-There is a ceiling.

-There's a ceiling?

-Yes, it's covered.

-Oh it's covered. Right.

-It's actually a mistake. This goes up to there. It's actually a projection...

-Right. Right. The other thing I would like to say is that as I come through here I would like to get a hint that there's something special actually happening here. So I would try to borrow some of this light. So I would keep the portals fairly dark. Probably uplighting to the trees. So as you come through here you are aware of some reflections on to those surfaces. So certainly I would be looking at doing some uplighting. I don't want to do too much because it's in the countryside. It's in a dark site. So these can be relatively small. I think they need to be controllable. They could be tungsten halogens, or they could be LED. I think probably I would go for tungsten-halogen so that I can dim those up and down. I'd probably look at tungsten-halogen uplights buried into the ground and I would keep the portals fairly dark. What I would do is certainly along that corridor is to put wall-washing but from below. Is this stucco? Is it white-painted stucco?

-Ehm I think it is concrete painted white with stucco yes.

-Right. I'd certainly try to bring the tincture of concrete out. I would put those at fairly close offset. So these would be close-offset so that I can graze light up that surface. Again, I'd want to dim it. And I think I'll need them on one side. I don't think you need them on two sides.

-Why not?

-I think you flatten it. I think you take the drama away. What I like... light-dark-light-dark. So if we can keep that relatively dark then we get that contrast of this strong lit wall and basic what we're going to have is (sketch 1).

-So you intend for very strong scalloping as we say?

-Yeah I think I want to get that texture really...really quiet... Some of that light would bounce off up to there so we get that fairly light across the ceiling. Further down we've got these scallops, then we've got the portal with whatever is happening from behind there. And that surface then is dark. So what we can now see is the light being reflected from here across that portal there, which could be coloured light. So we could identify that this is external space by putting green light or whatever and keep that wall bright with the scallops. As soon as you do both sides you just flatten it, it becomes flat. So that gives the impression of a fairly strong structure around you and not do anything on the ceiling. That would be dark, that would be dark, and then sort of that light bounces off to that. So that's how I'd probably treat that side. This one, I think it's quite different because you've got 'vision slots'. You can actually see through these. So I think on those I would probably light this wall. So probably similar technique doing on there. So what I actually now see as I walk through here is I see those as in silhouette. Because what I am actually viewing is a lit wall so I got a nice bright surface and I've got those which are lit. So that actually gives me as I walk along here, it gives me access and perhaps some lighting in here. Not too much out there. What I'm really trying to do is to gain 'visual access' to there. And that could actually be colour-changing. I mean you could actually change that colour and so that would suggest that you'd have LEDs, RGB LEDs buried in the ground washing up on to that wall. So that could be you coming in the evening that could be one colour and may then very gradually change into another colour. So you got colour-change and you've also got intensity change.

19:26

So it's a dynamic wall giving you a very strong statement. This is a strong signature to the house as you come in. So that's how I'd begin to deal with the outside. I'll come back to this in a second. That's quite important. Again we have that access through here. I think that wall is essential. You've gone into a lot of trouble to develop a curved wall. Its curvature will be seen by light being mono-directional, so we will enforce that directionality by mono-directional light. I'd like to try and emulate that at night-time so that we can begin to light that wall but in a mono-directional manner. I'd like to try and build some form of detail there. I'm not quite sure how we'd do that. Probably a vertical detail sending light out across there. And then it reflects around. I did a business school where we actually developed an ellipsoidal roof. This is internal.

-This is in section or plan?

-This is in section. (sketch 2) So what we had was a scoop there, this was white chippings so the light was doing that. Then in here we scooped this daylight up. On this side we didn't have a scoop. What it actually gave us was the feeling of an ellipse surface. If we lit it from both sides it flattens. It becomes a flat ceiling. So we tried to light it from a single direction by lighting it across there. And then at night time what we did was to put fluorescent tubes in there...

-And imitate the daylight...

-Which imitates the daylight. It works tremendously well. If we then take that, cut it down the middle, and make it a section instead of a plan, we get that. So basically that is truned upside down, cut down the middle. One way we could do that is to probably put a piece of track with vertical spotlights. And we could begin to send - spotlights along that surface. So in plan we would...

-Would you like a softer pencil?

-Yeah that would be... (Sketch)

22:35.

-Oh we got the glazing across here. Basically what we do is send light along that way. So we would get that bright and then what is going to happen is what happens on any curved surface. The light hitting that surface, will reflect to that surface, will reflect to that surface. So every point can see every other point. Because its curvature. So we get a very very soft transition of light going

through. We could probably do it in fluorescent as well. It depends how we conceal that detail but I'm sure we can manage that. It may be that the glazing is held back and the light is actually in there so that it is concealed. Where the light is coming from. But what you do get is wash which works its way round that curvature. Which again is really quite powerful as far as people standing out here are concerned. So that's some sort of detail in to there.

The staircase in any room you walk in any house by going from event-to-event. And if there's a dark corner in the room and if you're unhappy with it you'll put a light in it. It depends what the corner is. If it's a corner that has a seating. That would be used for two reasons. One it will be used because of people seating there and they are reading and you may use table-lights or maybe there's no one seating here but you've got the built-in library. So we'll light the library. So all the lighting around there can be off but that is still part of the visual experience for the rest of the house. As we walk through the house, that is not a dark corner. What we've got in front of us is a lit library so all the exciting books and shelving, you may have some ornaments, sculptures, colour so that becomes exciting. As people come in to that space to begin to use it, they may actually take a book and want to be able to read. So we now have got to be able to increase the light level in that area. So that's an event and that's an event. That event belongs to the house; this event belongs to whoever is sitting there. We are already beginning to derive lighting events in the house. The kitchen if it isn't being used it really wants some ambient. Some quiet light. To identify that it belongs to the total package of architecture, but it's not in use so that we can keep it down as ambient. Have we got high level cupboards?

-No it's just low-level.

-It's low-level. Right. Then I think probably on that I would want to light these walls. So I would probably put wall-wash in these.

-In the ceiling.

-Yeah.

-And then over here I would want some lighting over the island. Two levels. One would be working light so we could light that fairly brightly but we would be able to dim that down. We can take that out of the general lighting. Also if you had a party you still got all your pots and pans. You can turn the lighting off so you can hide it (by turning it off). But you don't want to turn that off. So that becomes part of this. That lighting and that lighting is all part of a room. The glazing disappears. If you want the glazing to re-appear we can turn that lighting off or down - and I would light those as well (the niches) - you can turn that lighting and that lighting and what now happens is that you look in that window and it becomes a mirror. And it now begins to reflect the excitement of what's happening inside. I can make that see-through by lighting that (the tree) or I can turn it off and turn it into a mirror.

27:43.

I am an advocate of table lamps. I love table lamps because they give you that softness that you can just use as general ambient. But I always do with them is (sketch) plug that in using a 2amp 3 pin and then connect that into the lighting circuit. (Sketch) Let's just take a series of rooms. What we can do is put these around circuit positions. In this room I'm going to connect these two dimmers switches. So that side of the room is on one switch and that side of the room is on the other switch. On this one I may say it's an important room so I'm gonna put 3 dimmer switches. I don't have to do anything with them. I can then come along and say, I need to put a table lamp in there. So I can turn the table lamp on and off. So it's turned on and off from the door. But tomorrow I may unplug it and put it into there so I can still control it from the door. So I don't have to worry about going to the table lamp to turn it on and off or down. I can just move them around as I wish. My flexibility is (consists) on a. how many do I have around the house and d. how many on each switch. You don't want too many. What I have found is 2 or 3 dimmers per room is more than enough. You may want to put standard lamps. You may want to have an uplight that you decide you're gonna plug in there so you can put a free-standing there and we can dim that up and down. So you can begin to get dynamics within the room in occasional lighting. So this is occasional lighting. It's not fixed, it's occasional lighting. You decide where it is. You decide when you want to put it in. At home if we get out in the evening I leave two or three of these on. Just to show that the house has got occupation. What you don't want is all this lighting on as well. It's energy wasting and it doesn't do a thing. So it provides a nice ambient, a nice background light, it's flexible, it allows you to create and re-create space as you want. And I think that's important.

You'll get fed up with where you're living so you'd want to recreate space. You do that by recreating the light scenes.

-It's like your personal torch, but in a softer sense? You're defining your presence inside the house?

-Absolutely. And in a week day you may be coming home from work and want it different than in the weekend. And certainly when you have visitors. Without changing furniture you can change the presence of how furniture and surface are working together. Two sets of lighting: you've got fixed lighting, which is lighting those sort of things (cupboards). Light those right the way through. We can then put table lamps. You may want a modern table lamp there or you may want a lamp which is a pendant. Which is shared by both the kitchen and that space there. It locks two spaces together. Those sorts of tricks. Certainly we want to downlight there. What's that space there?

-This is a bench.

-It's a bench. All right. Ok.

-With a sink.

-Right. So we need some light over there. I am not being entirely energy conservationist.

-It's not a point of the research.

-Ok. So again I would want to light the bench. So that is on a separate control. That can either be with that or without it. And I think we need some downlighting there. These could be probably low-voltage fittings.

-(Wide beam or narrow beam?)

- I want to contain the beam. I don't want too many puddles. That light would then bounce back up to the ceiling. So that is lit by reflection. So whatever hits up to the ceiling is what comes down. We haven't got any high level cupboards. Normally I would put some light on those cupboards.

33:15.

So I would light that fairly hard so that light bounces up to the ceiling so that we get soft ambient (coming down). You don't need to light that. That space would light itself by reflection. That (kitchen wall) I can see people using for artwork. So I would probably light that with wallwashers. I will circuit those up in a moment.

-You don't need to. Just the fittings...

-OK. I wouldn't be happy about putting too many downlights there.

-Why not?

- I think it'd be too strong. A bit aggressive actually. I like that (back wall) we can light there pretty hard. I think if I lived there I'd put there a hard surface (table) and put a table lamp. Is this a bridge?

-Yes but it's overhanging.

-Oh I see. But this is a surface above me? That goes through to five?

-That's five metres.

-So what height is that?

-It's five metres.

-It is quite difficult to maintain.

-This is four meters and this and that is five.

-Right. Is that a glass bridge?

-No I imagine this as a metal structure. It's just the balustrade that is glass.

-And the underside of this is...?

-It could be anything.

-Right. One of the things I'd like to do is to light the bridge from above. So we have actually coming on to the bridge. And then perhaps put some glass box into the bridge surface so that I can borrow light from upstairs to downstairs. (sketch) On the underside of the bridge I could have some surfaces that could actually glow... not sure of that.

-So it's like a light tube?

-It'd basically be (sketch)... So that's our bridge and up here is our ceiling. I'll bring some glass blocks which would be opal, and I would actually recess them into the concrete slab. What I've actually got is the ceiling, the bridge and the floor. That's my five meters. So I'll put some downlights up there and borrow some light through the bridge.

-And you put them not the axis of the bridge but on the side. Is this intentional?

-Yeah. On one side yeah.

-Is there a reason for that?

-Not really. I just like asymmetry rather than symmetry. What this has actually given us is a visual experience through there. I like these. Because again I have views through from those sides. If we light this we have a strong presence there and we need to light that. So that (the staircase) becomes a strong presence. Is that a wall?

-Yes. It's like a ribbon. Like a helix.

-All right. Ok. So it is helix that will go up and down, yeah. Notoriously difficult to light staircases like that. I'll come back to that one. These are fixed fins, are they?

-Yes and they are full height.

-So they go up to the five meters.

-This cuts through the corridor. (section)

-Ok. (repeats borrowed light on bridge). No lighting is actually owned by that one room. So everything in the house, depending on how you walk through it, belongs to everywhere else. It just becomes part of the experience of living. That's wall isn't it? I think I'd want to wall-wash that.

PART TWO.

-I want to use that wall. It's a seating area and inevitable people are going to be using those walls for hanging art etc. I want to be able to light those walls. I am not sure whether I want to use wallwashers or spotlights. Recessed spotlight. I would want to be able to switch that separate from that. At the moment I would suggest probably spotlights rather than wallwash. In fact I would wallwash that. And I would spotlight that. So that (back wall) is where I would hang...

-So that is continuous then... or is it again...?

-That's a solid wall isn't it?

-No, (I mean) the type of fittings... What's the difference between spotlight...

-(sketching) Spotlight would be ... what I'd be doing is getting a wall of light on here... So that wall is fairly bright and that has pockets of light.

-Is there a reason for two different treatments?

-I want to put that (because of) pictures. Again I would like to have the ability to put table lamps. Is that a shelf?

-No, it's a door.

-I would like to ability to put standard light so that I can change the ambience. What is that?

-This is a projection of the skylight.

-Ok. No point putting uplighters where there's a skylight. Table lamps there, again using the principle of (being able to) plug one if you want it and unplug if you don't want it (any more). I don't want to do too much. I think people overlight houses. I think that's one of the big problems in lighting. That space (living space) really doesn't need to be lit. We've got this lit, we've got that lit... that lit...that lit... And we can see all that from here. If I light that too much then I reduce that visual access and I don't really want to do that. I want to keep that visual access. So I've got all that wall (back and seating wall) which is lit. I've got an event here. I've got events here... An event out here (end of corridor). An event out here (front corridor) because I'd be doing that over here as well... I don't want to light that because I've got this wall that lets on see-through there and... I think I'll keep the lighting to the main trees...

03:55

I don't think I want to light that. I don't think I want anything from there. How high is that ceiling?

-That's 3m.

-3m. Perhaps I would want to put some spotlights on to those walls. I don't believe in lighting floors.

-Why not?

-Because you are not going to fall off of them.

-But it's another surface.

-If it's a surface which has a 'visual asset', is an important surface, has value, has texture, has colour, then light it. If it's just a piece of floor, then don't light it. That's what I call 'puddles'. And if go to people like Marks & Spencer's – you go around and there are all these puddles on the floor you know

-Why have you got those puddles?

-Oh there would have been a mannequin there with clothes on it. But we've taken the mannequin away.

-So why do you want the puddle? Unless the floor is visually important, then don't light it. There's no point. These walls, they are visually important (of the corridor). They give you the constraints to space. It actually delineates space. It actually says: I have a wall.

-If we had roadway lighting... Then you could avoid lighting the road and just light the barriers (so) that you know where you're going? Could you do that? If the regulations allowed that of course.

-If the regulations allowed you I think you could do it. The problem with road light is that it's very expensive to light it that way. What we do is we light the road as a background so everything else is seen in silhouette...

-What do you mean (by) seen in silhouette?

-Every object running through that is using that background brightness. Road lighting is classically... (sketch) There's the road, you light that so that's nice and bright and when a car goes through, you see that in silhouette. And the same (is) with people. I think its changing. I think people are beginning to realize that bringing white light into the streets increases its social nature. People will begin to use the street as an extension – as is being suggested here – an extension to their living experience. In which case one want to light people's faces. Because one of the things in road lighting is that when you are walking and see someone walking towards you, at 50 yards away you can see by their face whether you want to turn around and walk away.

7:00

Now you can't do that with silhouette vision. I think roadway lighting is changing is beginning to bring social awareness on to the streets. Which is basically part of what we do in living. So I am lighting this wall here because I am always lighting verticals. They tell me where the space changes because suddenly the vertical stops; so I know that something is happening around there. As I get to here, I see a soft glow there (on the curved wall). As I walk round the corner that wall gets brighter and brighter. I am beginning to show people space by vertical awareness rather than horizontal awareness. Here (kitchen bench) I want horizontal awareness. Here (kitchen island) I want horizontal awareness because people are going to be seating and reading. And I don't think I need any lighting in there (living space) . I've got lighting in there. I've got lighting on that wall (curved). I want to light that (the staircase). I am not sure how I'm going to do it but I want to light that as a main feature. I think that's probably how the main space downstairs is done. I think that (the underpass) is an important route. Because it's a dual focus. We will probably put the barbeque out there or out there and will probably put the tables out here somewhere. So if you are going to be eating and it's raining you can cook out in the open and the smoke goes out in to the sky. We can actually light that. How would I light it? It probably has to be with downlights. Are those walls just white stucco?

-Yes

-I think I would light on of those walls. And I would probably light that one.

-Is that washing?

-That's washing from the ceiling. So now I've got an access route and that light would bleed off as it goes through here. I would probably change it here. These are downlights and those are uplights. I would light that wall from below and I would light that from above and that from below.

09:45

I think I need some drama. I don't want to light that wall because I need to keep that portal dark. So that that light reflects through here. I always want to keep those portals so that I have... (sketch) That's dark and inside there you know there is light. It would be nice if people could put pendants there. I wouldn't want them there all the time. What height is that slab?

-Its 2.80

-I would make provision that I could hook a pendant of some sort that I could plug it in. I could put lighting in here which is temporary. So when you're using that space as social space...

-What does the pendant offer to the space? Do you think it makes it more...

-I think it makes it more...open. I would turn those off or down and bring those up. So this is the same as these... which you can plug them in... You can them off the garage, hang them up. (sketch) When everybody's gone we can take them down and turn that up. So, that's architectural lighting, this is people lighting. It's about people's experience.

-I like this division: people lighting and architectural lighting.

-Well this is your lighting. Nothing to do with the architecture. It's want you bring in. You use and you take it away when you finish. But your architectural lighting still exists.

-It's sad because architecture itself as a discipline is defined by the human being while lighting sort of unavoidably differentiates between the user and the space itself.

-Yeah.

-It sees the space as a dead object and the human being as something different.

-Yeah. Which is why the architectural lighting, which is for people as well obviously, has to be dynamic. Because you need to be able to change the space experience. It's how surfaces... one minute this surface is there and the next minute it's gone. You take that away. But the personal lighting i.e. the people lighting is that which you decide. It might be a Halloween party so you take

a couple of pumpkins and hollow them out, put a little lamp in there and hang them up on the ceiling. And just turn them on...

-I am not sure about this. We definitely have the potential to change our light scenes but is it a need that we have inherent or is it something we do because we can afford to? We don't do this thing in daylight...

-No we don't but what you will do is that you will find the light that you enjoy. If you want to sunbathe, you will somewhere and sunbathe. Most people will walk from shadow to light. They won't stay in strong sunlight too long unless it's sunbathing. It's just too powerful. So if you're on holiday you'll go in Greece or anywhere in the world you'll find these little alleyways with steps and a little bit of greenery and old rusty windows and old shutters with paint peeling off and a shaft of sunlight going through and you go: oh wow. You'll stand on your photograph there. I bet you have photographs; loads of them. And it's because I've got enough sun in there and enough darkness that it becomes exciting. It becomes a space that I actually like. And I think that's what you need to do in houses. And you go from space to space and you'll find different daylight experiences. So we don't have control of it but we do have control of where we visit. Which space actually pleases us. I love walking through the woods in the summer where you've got

14:59

that dappled sunlight coming through and then a cloud comes over and it goes away and... it's exciting this dynamic and that's what I want to bring up to my house. So that's why I like these little add-ons. A bit quirky, eccentric I suppose. It's part of the 'me'. Rather than beautiful architecture, done beautifully, lit superbly well... but isn't me. So what I am bringing in is the 'me'. I love a bonfire. In the garden... and people sit around it. Everybody sits around the fire and they all look at the light. And the light is flickering across their faces and... it's that excitement. I created that for warmth but most importantly as a focal centre. People like focal centres. Which I suppose brings up on to the fire. Are there real fires?

-Yes.

-Right I think that's important. That all that lighting can be taken down so that light coming through there which is two ways... In summer when there isn't a fire... do you want to light that? I wouldn't. It's (like) pubs do it.

-Yeah but in a house you want to see the change of seasons...

-Yeah. I just find it a bit kitsch. I think that's the problem I have. [...] The workspace. Clearly we need to light the workspace and that's what that space is about. Is about people working. So I want to light that. When people aren't there I'd turn that off. But I wouldn't turn that off. (the curved wall lighting). That belongs again to the house. What is that lighting do? And that light is working for people at that worktable but that lighting is about belonging to space.

-This is a dimension line by the way... it's not a desk. I didn't put any furniture in the workspace.

-Ah right. I still think that that's where people probably put their workbench because you can get 'visual release' by watching out in the garden. I am struggling on the staircase. I know what I want it to look like but the architecture isn't allowing me to do it.

-Why not there are sort of flexible sources now. You can wrap around it if you want to.

-Yeah.

-In any case the intention that you want to light it is the important for me. If you were the architect and I was the client I would probably try to convince you to put opal glass steps in.

18:34

And then uplight through the bottom. So the whole of that staircase just becomes.

-Wouldn't that be a bit glary?

-No all the will see is the light coming through the glass. (sketch) So we've got etched glass. We've got downlighters at the base so the light hits that. And then it does that. It diffuses out. I think that's one way. Do the steps overlap? Do they come back to themselves?

-Just slightly but you can suggest that. I mean it's at concept level.

-I suppose the other way (sketch)... is to put LEDs. So LED fittings begin to follow that. Structurally (it is) a nightmare to build. Because this is hypothetical, I don't have to worry about that.

-To solve it technically you mean.

-To solve it... horrendous. Because you've got all this into the concrete work, into the shutter and if you forget one, that's it. Your whole idea is gone. So one idea would be to put little LEDs in the wall, so that it follows the helix out.

-Inside or outside?

-Inside. The other one is to build into the base of that helix somewhere where you can put a linear strip of LEDs. So the LEDs will be coming down there. But that is actually lighting the level below. The only other way I could suggest which is feasible is again to put glass, opal glass and so we borrow light from (the curved wall) over here. So the staircase becomes lit by borrowing light through the structure. I think that's quite difficult because I already said I don't want to light that (the living space) so I don't an awful lot of light elsewhere.

-I am not sure I understand this detail. Is it a section?

-That's a section. So your handrail would be... there's your concrete up stand wall and basically what I am doing there, is if I stretch that out, I am glazing that. So I am beginning to glaze that as I go up. And that can be linear. It could be however you want it. I am actually not too keen on portholes...

-It's a bit post-modern isn't it?

-More modern yes. As you went up there what you'd actually have is pieces of glass. And I would probably take the glass there. So that surface and that surface... you can run your hand over it. And that would be white glass. If you did that of course you could put a little LED strip in the bottom and you could light the cavity.

23:00

-So that becomes a light source... with light just coming out... Ever so expensive, but you don't need to worry!

-We're in an ideal world here...so...

-Yeah. I think I would probably do that because I could do two things. If I've got enough daylight coming in here, then I am borrowing light at daytime and at nighttime what I can do is to bring the LEDs on so... (sketch). We've got our wall, handrail on the top, this is concrete. What I'm gonna do is to put a recess, linear, and I am going to glaze that. This is white opal. I'd suggest this is probably that sort of size. Not big. In elevation I'm looking at that and that now is my glass, and I'd put a little lamp in there.

-Why not do it at full length?

-Oh yeah. You could do. So we would so that. Yeah that'd be nice. You do that and we need to put the LED on that surface there. Concrete-glass-glass-concrete. We'd be putting the LED in there to light across there and then just let light bounce around inside. I think that'd be nice.

24:58

Kitsch: you could do RGB white. Too kitsch. It's a bit 'Mickey Mouse'. Let's just do white. I love white. I think it's lovely. I think the use of colour is so often people saying: I've got money. I think white is just about saying: I like simplicity and elegance.

-So you would prefer it (even) for the external spaces you proposed green light, you would prefer if it was white?

-No I think the external is different. I wouldn't mind colour-change externally. But you've got all the colours in the trees. You don't need colour. You've got the browns, you've got blues, you've got greens, you got loads. I think it'd be in white light. I can't see any major advantage anywhere in this scheme for using coloured light.

-Why is that?

-Perhaps opportunity is there (pointing at the corridor wall). And there and perhaps along there. (Underpass). And probably that would be LEDs so that you can chose how kitsch you want to be. You may want it to be a white-light night or you may decide to put moonlight blue in there. You can choose that. I think moonlight blue is a beautiful colour. There is actually an initiative being considered in the United States to do roadlighting using LEDs which emulate moonlight both (in) intensity and in colour.

-And position?

-From the high level. So you'd still do it from your lanterns there but that will be LED, and will be delivering about 0.4 lux and would be – I don't know what the colour temperature is. It's quite high actually. I don't know probably around 8,000°K.

-It's interesting. [...]

30:46

So I think if we could emulate moonlight in here. Soft lighting, silvery blue colour. That suggests that has to be LEDs so that we can mix that colour. We could probably use RGB white, but I would hope that no-one would use it in 'Mickey Mouse'.

-As a colleague said, wherever you put LEDs you find out that after commissioning someone touches the switch.

-Yeah. It's a real problem. People don't take ownership as you design it. That's one of the problems you've always got with design. As I keep saying to everyone is: remember, you design it but someone else owns it and will they operate it in the manner that you wanted them to? The answer is: No, they won't. If the fittings aren't accessible then they won't maintain it. So suddenly two years on, you go back to your building and you go: oh, they haven't changed those lamps. So you say to them: Why you haven't changed those lamps? And they say: Because I can't get to them. Ownership is a relationship between the designer and the owner.

-That is different though because it's a practical problem... It's a different thing when people can't reach the lamps than when they change the lamps and put different ones because they want colour and they don't realize that this is aesthetically wrong. The one is a matter of education and the other is a technical problem.

-In shopping centres we started putting dynamic lighting back in 1992. We'd put the control unit in the security room because that's where all the controls were: TV, music, fire alarms everything. Now these guys sitting in the control room – big burly security guards – and they found this little panel with the little button and they'd go: Oh, what that button does there? And suddenly they blow the lighting out! Because it was set to do certain things and they'd go... oh! Quick! Quick! Hide it! Hide it! Is a real problem and you have to know a. that people who are taking it understand the lighting and what you indented to do and b. that the controls are idiot-proof.

33:53

[Laughing]

So the controls have to be simple enough for people to be able to operate them. They have to understand what they own. What their part is in that process. They are going to continue it for the next 20 years. Therefore they have to understand what you actually designed for them. You can't just put the dots on the drawings and the switches and hand it over. There has to be an education process. All the way through and at hand over as well. Right. Should we go upstairs? Again that detail cove will go right all the way through to that void. And that is absolutely beautiful I think. That's a void down isn't it? And that's our rooflight. That's the roof of our entrance hall?

-So this is down at 3m and this down at 4m.

-And we've got a flat roof that we can get on to?

-Yes.

-Right. Where do we gain...? Oh it (staircase) carries on right up to the roof? Oh that's nice. I think that little rotunda. I would like to light that and to bleed light. So I have a visual, I have a rotunda on the roof which has access. But I think I would like to put not light, just glass, as we did on the staircase, on the wall. I think I would like to put that on to there. And I would like to light that surface somehow. I would like to light the whole of that rotunda from inside. So it becomes part of what's this. And here we've got the light running in that helix. That wall continues (the wardrobe wall) so that is a vertical face?

-Yes. There's only the room here for another 2.8m.

-Is that the back of the cupboard? Is that full-height?

-All you see here with a thin line is at 2m only.

-All right.

PART THREE

-Right. Bedroom. What is incredibly important to me is that this wall and that are backlit white. Now it's very difficult to backlight glass. Basically what you want to do is light a surface behind it and I don't have a surface behind it. I think that's the problem I've got. I have that surface...

-You have that wall but you don't have much on the other side.

-I think I want to light that surface and probably that one as well. So that anywhere seen out through here that glass is just beautiful. We've done it. That piece of a wall there does both. I am just wondering whether I would also like to put something in there so that I can turn that off, so what I would then have is that I would reduce the extend of that by putting a standard light. Even just an uplight on to the ceiling. (Sketch) It does that... a local patch of light on to the ceiling. I'd never run them together. I would have either that or that. Never together. This is the wardrobe?

-This is a wardrobe yeah.

-I think I'd like to light inside the wardrobe along that leading edge. Along inside of that. So the clothes are lit. And the shoes are lit.

-Is this inside the...?

-It's inside. So you'd have... (sketch) the rail with the clothes.

02:48

It's a linear source yeah. I think fluorescent will be a bit too strong. I wouldn't want this too bright. It could probably be an LED. But we can dim it. We can put the fluorescent in there and dim it. Would I want it on all the time? No, I wouldn't. It only comes on when you open the doors. So at the doors (sketching) there is a micro-switch there, so as soon as you pull the door, the switch comes on and that lighting comes on. I think it's too powerful (to be on all the time) because clothes aren't the prettiest things in the world when they're hanging, are they? Unless you are at Marks & Spencer's. They are not particularly attractive. I think that (bed head) needs to be a lighting feature. I think I need to light that bed head. And I need to get that light back on to the bed without resorting to table lamps. I don't have a problem with table lamps in the bedroom except (the fact that) by the time you put your book on the table and then you get a glass of water on the table, and half a dozen pens on the table, and something else, there isn't enough room for a table lamp. You take your glasses and you put them on the table, and you take your watches etc. You got a little table by the side of the bed covered in stuff, and you might have a photograph of your husband, wife, and boyfriend, eventually there is no room. So a table lamp is always more clutter. So what I'd like to do is... Again in section (sketching). So there's the cupboard unit, and

below the bed and here's the shelves. What I'd might ask is that this is extended over a little bit. And I'd put a little light there, or put a light in the back so that I can get indirect lighting. It could even be a glass box actually if I put a fluorescent in there and this becomes opal. So you get a very soft light there, dimmable. It has to be dimmable. I think that's absolutely crucial.

Then I've got out in to here. Whether I would like to light the landscape I am not really sure. I don't think I do. What I would do is to put spotlights here for pictures. (bedroom wall). They would be recessed. So that would bring that wall up. That wall here, I would have as a fairly bright object.

Again we get back to the fireplace. Is it kitsch to light that if there isn't a fire. Would these be artificial fires?

-I suspect it will be a normal fire.

06:50

-I wouldn't want to light that. I think the magic is in the fire. So I lit that wall, I lit that wall, I lit in there but that only operates when people are using it... I've lit that wall and I've lit that surface there. That's all I need to do up there. We've already said that with the staircase, we would put fittings and I would cut holes in the floor and glaze it so that it that can borrow light for downstairs. To that position there. I've done downstairs. I could do (something) on that wall there (wardrobe wall) but I can't get to it. Maintenance is pretty poor. And I've got all of that lit anyway (the workshop walls). I don't need to do that wall. The toilet bathroom. That sink here... I love that. Is there a mirror?

-No there isn't. There is one behind. Which is probably not very functional.

-I want to light that so I'd put two downlights in the recess. But again I'd like to light the wall so that that wall is... It's important that we have light coming out of the mirror onto the face. (sketching) I we've got a mirror there, I'd like that to be white with a fluorescent tube behind that so I've got light coming through. That does that side. This side... the cupboards... the bath... Can you reset round to the cupboards for me please?

-They are not very clearly detailed

-Are they not?

10:02

Well I suppose in the bath, I would be looking at downlights. I would want space for candles. Little tea candles. (Incomprehensible). I'd like a light unit in the bookcase. I might suggest in there that I would have... (sketching) There is the throne. I might suggest a fitting there which is uplighting on to the ceiling. Which in section is (sketching section). We have floor, ceiling, the toilet is there... we'd probably do that. So without having any lights in the ceiling. So we have a couple of lights in the bath, that's in the alcove in the recess, that's concealed in the glazing...

-So that's inside there then.

-That's it yeah. Actually you could probably put a linear fitting across there. I think we're there aren't we? On the roof, I don't think I want any light on the roof. I think it's nice to be out there on the roof. I would expect to see the big sky and the moonlight or the stars... I've got a break of light there anyway by glazing and I wouldn't put a lot of that anyway. That's it. That's how I'd light it...

[end of the discussion]

-Yes, what I've always said to my lighting designers is: it's not about the dots on the drawings. The dots on the drawings is the consequence of the design procedure. It's the consequence of a visual experience. Is what you visually are trying to create. And where have you got your clues from. The clues are out there.

[talking about sunset and the time lapse of the sunset in UK and Greece]

[referring to data protection of this interview].

Edward

PART ONE.

00:00

Briefing takes place

13:18

Briefing finishes and Helen has an overall look at the drawings. She asks some generic questions about the nature of the study. i.e. if this is real project etc. It is then decided how she likes to proceed with this. Helen states that this is quite a complicated project, not an easy one.

14:04

-Is this a real project?

-No. I designed it.

-Only for this?

- (nodding)

-I though maybe you [have] designed it for something else.

-No the space configurations are serving some purposes of my hypothesis.

Having another look at the drawings. She seems she tries to understand the space better. She asks about further explanation for the rooflight detailed section.

16:47

-It's quite complicated. It's not an easy project. Yeah it's small but has a lot of elements. It's not... you know a lot of niches, a lot of rooms, a lot of details. Am I supposed to address all of them? Because I'm sure I'm gonna miss something.

-Ok if you for example want to light a niche, you don't need to go and mark up everything. Just show me: this is how I want it, or put the description of the effect and that's it. There is also the recording. So whatever you say is recorded and that's a data as well. So you don't need to go into every detail.

-Sorry, what is going to be displayed in those niches?

-I guess since this is a kitchen there will be cutlery... storage space.

-And outside?

-Outside can also be a storage space. They can put pottery in it or they put something decorative. I haven't been into detail because... you know you could go crazy with it!

-But usually we need to know what...

Interviewer adds some more guidance on how she should go with the project i.e. that there is no budget limit. Orientation etc

18:15 -There is no budget limit and you shouldn't worry about [light] quantities to be achieved. If you ask about orientation, there is no orientation because it's only meant to be designed for night time...

-Yeah. That's what I assumed. Because daylight is designed already! You don't need to... I know.

Informal chat and some nibbling on biscuits. Helen asks for green and blue coloured pencils and markers. Talking about practicalities again, time management and explanatory procedure. Helen is given options on whether she wants to do it on her own or not.

Recording starts again when Helen has finished the marking up of ideas and is ready to explain them.

21:47

-I didn't put the notes but I did a lot of details and I marked all the elevations as well. So I think it's clear what the intention is.

-So if you can summarize then...?

-Well it's a residential and probably a holiday house and everything is supposed to be very relaxed. So... am I supposed to talk about sources and things?

-No I just wanted to found out if this is linear?

-Yes.

-And this is demonstrated here. But is this up or down?

-This is down. So what I am trying to do is to enhance all the architecture elements and to conceal lighting as much as I can.

-Which are the architectural elements that you think are the most...?

-Horizontals, linears... Linear elements [at] most. It's very linear. There are a lot of walls. There are vertical linear elements. So everything is flowing. So that's what light is supposed to emphasize. Actually to support what's already designed. So you have these very strong lines, axes where everything is parallel and horizontal and on the vertical plane as well there are these written... these fins, or would you call the short walls? So that's the first thing that I started doing. So I tried to implement that concept and all the other similar elements. So this wall I would it... in any case it would be a cove detail; either on the top or the bottom. So I would try to light the wall and to support this main... one of the main routes... of this axis. It's not axis but route.

-It's both actually...

-Yeah and it's got different heights and it changes all the time on the upper level so I decided to do it from the floor. So this is the detail: so it's recessed floor detail that continues; linear lighting. Because it's external obviously this obviously needs to be weatherproof and maybe closed with diffuser here because it's for the maintenance. But in any [case] it's lighting the wall from the floor; continuously.

-And you've added also some downlights which are creating pools of light?

-Yes pools of light inside. Outside I didn't want to have any downlights. I think these indirect elements are enough for the purpose. Because there are uplights emphasizing the verticality of these fins, which you can see on the elevation as well... This is basically.

Showing on the elevation.

-And you copied it inside as well?

-Yes I continued. I think that's the purpose. These glass doors and glass walls... to connect the inside and outside anyway so that you don't have a boundary between interior and exterior. And with this lighting this is even more emphasized. Because this appears to be a wall... continuous wall. It doesn't matter if it's external or internal. The same [is] with these vertical elements. So that's that. So I applied that wherever I could.

25:34

-So wherever you have this dashed line it means that you have a cove?

-Yes, blue means low-level lighting and green means high-level.

-A ok fine.

-Yes. So this is that detail. So when we don't have high walls but low walls, I'm using this detail. So again it's a cove detail but lighting the floor, so I have that here where you have a planter and then here, where the wall is low, and then there is another. Wherever you have low walls, I'm lighting the floor with similar detail. But it's only here (corridor wall) that there is lighting actually from below. Then, this is your wall, yes... yes (front yard). Then, the trees. I'm lighting the trees from below with a planter light on spike adjustable... you can move this... as you wish. They are all tungsten sources basically, most of them. This could be probably LED but maybe not. Everything is on a dimmer system so you can set the levels... to very low levels. Everything is with anti-glare accessories, downlights with pinhole with deep source... deep inside so you don't have to...

26:56

Uplights where the portals are, as well. External ones...

-This is for... what's the reason for that? You want to identify...? Is it functional or do you imagine them...?

-Identify... To emphasize the portals... the entrances, yes. That's the main reason. So that's how we finished with the boundaries of the house and the external walls. The only place where I put some wall lights... these are wall lights... is in case... I don't know how this space is going to be used, but in case that it's used for I don't know seating outside, or [if] it has a practical function, then yes I would put some wall lights, glowing wall lights. So [it will be an] indirect glowing effect. Otherwise, I don't think that's necessary anyway. Here, (middle yard) if you sit outside, from the light, the indirect lighting from these lights, or from the portals and planters and niches, I think that's enough functional light for staying outside.

-Have you [got] a detail of the niches?

-The niches... I am just... I just have some downlighting. It depends on... you know [the] niches could be much more developed. It depends on what you want. I mean in the kitchen I don't think there is anything more that you can do apart from downlights or... You can... I was thinking of creating a light box behind but again, with these curved walls, this appears like... (makes gesture) something sculptured from the walls... like taken out from the wall. It doesn't have a flat background so I don't think that lighting is appropriate. I'd use it in another place. But here I imagine this... especially this (niche) with a sculpture, or something decorative inside which then you accent-light with two spots again... a direct source but which you can... [in a] more dramatic way. And there are very different sizes so it might be that the same fittings is not proper for this and this but again... in general I think it has to be with integrated lighting but what exactly? And I think with the soft diffuse downlight it just fills the whole niche with light. That's appropriate for this kind of niche.

30:00

Then, coming in [to] the workplace, again this is a very strong curved wall, which you can see through this glass from the outside. So I am trying to light the wall, to wash the wall from above, so when you look from the outside, you have this background lit surface which adds to perceiving the depth of the space. And again there is a very strong, solid balustrade [for] which I was thinking of more options. I was thinking of having this detailed... this is the detailed bit. Again a cove detail washing the wall, either from the inside or the outside but I think it's important to do it from the outside so in this place there are two strong elements: this curved wall and this curved wall washed. And then some decorative floor standing lamps and task light for actually working because I imagine there might be [an] armchair here for reading so that's [unclear].

And then, the steps, eh staircase, either with step lights...

-Built in the balustrade...?

-In the balustrade, yes; which is this, or near to the front of the step... or... In case this detail was inside then you wouldn't need anything, but then I wouldn't like to have the same detail in and out. I decided to... this is quite standard: wall lights; but it's very functional.

Laughing

-That could be some funky design. This is the main view so it's quite [a] nice space.

-So this symbol is not for downlights [but] for floor standing lamps?

-Yeah. Low-level floor standing. This is task light. Wherever the desk is. Again, the fins, because these they are much higher, I decided to have them lit from below and above. So there is the same source of light from both sides. There are pools of light from the ceiling, high ceiling. Which again can be very dim; it doesn't mean that it this is going [to] be a very bright space. I don't see it as a very bright space. There are just a lot of layers of light which you can combine depending on what you want to achieve.

Kitchen: Indirect lighting to the bottom of the elements, lighting and functional light from the ceiling.

-You said functional lighting...those green dots...?

-Yes. The working surface... and the niches.

-So can I ask... you imagine them as narrow-beam, because [I see] you've drawn the pools?

-These ones [will be] probably narrow beam because they are very high. So, they would be again tungsten, but maybe stronger as AR111 while everything else is MR16. Yeah, but these are probably, when I showed on the elevation, yes ... I would imagine if it's five metres high, that this should be narrow beam... in order to be [unclear].

These ones... these ones no. They need to light directly on to the surface but they will be diffuse. Every... all of them [will] need to be diffuse; they need to give 'soft light'. So it's not like 'sharp light'. This is just needed because they are not top... elements on the top of the counter because then you can integrate lighting from below, that's why I don't see [any] other way of creating functional light that you need. And although I would prefer not to have downlights... but they are needed sometimes.

-Why not?

-Because I don't like them... seeing them on the ceiling. Although you know, if you have them located

-You just don't like eh... the ceiling being spotty?

-Spotty no.

-It's pretty common for designers...

...for architects yes. What I like is lighting to be integrated into architectural elements and interior elements. If you [have] an array of downlights in the ceiling... it's not really... designers not really [unclear]. But anyway in this case they are needed so that's fine. I would never sacrifice functionality just for aesthetics. And again lighting niches from the front... for whatever is displayed there. You can light them just from inside and from the front as well... ok so that's that...

-Are those wall lights?

-This is... here I have a problem. This is a library, so I have integrated lighting to the front of the shelves to light the books and because it's very low I really didn't want to put downlights. Because downlights in a low space is like you have light above your head. But at the same it's a library so you are meant to read. So you need light. Functional light. So then I decided to have something. I wanted to put floor standing lamps but I didn't have anywhere to put them. Because there's nowhere to put them. This is too many... If this was like [a] free corner, that would be perfect. I'd put it there and for example here and it would be fine. But because it's not then I guess it will have to be something custom-made. So again it's a floor standing light coming out from the back.

-Like a British Library fitting!

-It is a British Library! So, again: quite soft, so [that] it's not burning in to your head. But it will give enough light and like a warm... this kind of thing. So it is becoming an interior element integrated in to this seating. And this is maybe or not integrated... linear lighting.

-In the nosing of the step... yes.

36:47

-This and I don't know where else... yes we have it here (workspace steps). Seating area: again I put floor standing lamps where I could. This is not reading area so I don't think we need the same thing there. This is more... I introduced the cove, along the walls, where the walls are full-height. So, cove-lighting to wash the wall, if there is artwork on the walls then we would put some downlights, to light the artwork. And the rooflight: when it's dark, this is nice when it's daylight, you don't need anything, when it's dark this is like [a] hole, so I did a cove washing the walls, which could be maybe...maybe... that's the only place where it could be blue light. White and blue; so you can mix white and blue.

-Two lamps then? One white and one blue?

-Yeah like cold cathode blue and white which you can mix; or LED. But I wouldn't go [for] anything more than blue in terms of colours. And I wouldn't use colours anywhere else in the house.

-Ok. Why is that?

-I don't think it's needed in a residential project. I think in terms of effect, white lighting integrated into architecture, gives much more. Especially in this small project I don't think you need to try to make it too exciting. And for me it's not even exciting! So... I would never go [for] more than blue... ok. Maybe some accents. I don't see here where would I use that; or I think it would be just forcing it. I think it's got quite a lot of light elements in this house without any colour! It's very small house but with so many things. Again these are planter light so wherever we have these small bushes or trees, we try to light them. Not too much but occasionally so that you can have shadows in the walls... here it creates quite a nice effect.

PART TWO

-So you were saying something about the wash lights?

-Yeah. The accent lights, in case you want to accent light something on that wall because otherwise, this is quite all even wash the wall, ok these floor standing lamps give some warmth, at low level, but because there are so many walls, assuming that there will be something displayed on these walls, so you want to accent light. So that's why... Actually there is no space to put [unclear] Again, very soft scallops if there is something... I think there is nothing...

-So, that's it on the ground floor... So if we come on the mezzanine...

-Coming up... again we said what we are doing with the staircase... I had a bit of dilemma actually what to do here because you are changing the balustrade actually from one material to completely...

-It sort of revolves like a ribbon. It's not [like] a closed tube.

-No, that's fine but it's solid, it's like a wall up to here and then it becomes glass, so you can't treat it in the same way.

-Ah. I see.

-So if this was continuing and if it was the same as this then I would continue with the same detail lighting the wall. But then I just stopped and I'm not lighting the glass obviously. And I'm not putting anything in the handrail or anything. This is just an architectural element which you can appreciate from the lighting around it. So I didn't want to do anything special about it. I just created again pools of light on the bridge, I am having this light in the fins, this is [the] cove from below, I mean it's above for the wall and then we are coming here, so as you are coming, this is [a] translucent wall, so you see through when you're coming, you need to light the surface you are approaching. So again, I don't know what the use of this space is but if there is something displayed, some piece of art on this wall, the same kind of detail as below, floor standing lamp and then there is no direct downlights, I don't think it's needed. Because there is low level walls I think

you can light the ceiling from [a] top detail and this would give enough functional light for this area.

And then, the bedroom is quite relaxed, no downlights, just table lamps to the front and then the shelving, either integrated lighting to the front, linear or maybe light box; so it glows from behind. And the wardrobe, again I'm creating this detail, little cove light, to give some indirect light and then downlights recessed above. You can't see them but

-It's just right in front... ok.

-... [they] are lighting the front surface.

-And there's two floor standing [lights] there...?

-Floor standing. It's always nice to have floor standing glowing... it's cosier... So wherever I could... in seating areas in bedrooms I do that... here I put table lamps and that's fine.

04:08 And then, the small toilet...

-You like the floor standing because they...?

-...Soften the atmosphere.

-So they match with the residential style then?

-Yeah. Also in the restaurants, hotel lobbies... wherever you want to give... yeah in spas... in relaxation areas... they add to this relaxation. Especially if they have this glowing... how do you call this... lampshade. And then when you dim them down... they are really... you can switch off the downlights and leave only the floor standing lights and its [unclear].

And then here, cupboard, lighting with a few downlights, which will reflect light; it's enough for functional light for this small area... light in the mirror... lighting in... I don't know if there is a mirror, I don't think so... this is curved.

-There isn't one, yes.

-But anyway... light in the sink and then in this detail... light in this curved surface... yeah.

-So it's like a cold cathode then...?

-Soft glow... Well I don't know. This could be I think straight...? Ah because it's got the front?

-Ah the bulkhead?

-Yes. And then, rooflight. Rooflight I would treat everywhere the same. Here, here and here. I don't know if the detail is the same but we can probably get it worked out.

-It's similar. Only different depth would be [there].

-Because the staircase will be nice as well to have this glowing 'halo' at night and here as well. When you're like sitting in the bath. There are no windows so this is all you have. During the day I guess it's nice when the clouds get past. You could go more like creating artificial sky but I don't think... you know it's not [a] hotel... so I won't ... more than that.

Closing discussion.

PART ONE

-So, we'll do a total lighting scheme for the whole building?

-Err, yes, at the concept stage you don't need to really spend too much....

-Inside and out?

-I'd love to see if you have any suggestions for outside, but if you want to leave it as it is because you think it's better, then ...

-...a lot of nice shapes going on ...

-Yes, I sort of put in a (funny) landscape because people kept asking me, why didn't you have the views on the long side, it sort of starts to make more sense if you put it in a landscape, it's into context somehow...

-So people are approaching it from this side?

-Yes, from this side, and then you can obviously extend these (inaudible) on the other side, it's not approachable on those sides, it's quite steep.

-OK, er, where are we going to start? OK, well, if we start looking at the functional thing...OK, starting at the main entrance, you've obviously got these slats which are the obvious choice for some kind of a big (?) likeso I definitely want to do something with those. They carry all the way through, so that's a good way of getting some rhythm, leading the eye into the space. That's a good feature, probably the strongest feature in the whole thing, apart from the bridge. So, we've got those, a relatively narrow bit of a corridor. This is all one height, isn't it, here?

18:07

-This is at 3 meters, so you have a ceiling there, you have a ceiling there and then this is, all this part, no sorry this part is at 5 meters.

-So it steps up. 3 meters, OK.

-Do you think that this is ...you said that this is the obvious... Sorry, I will become a bit analytical, how do we know this?

-Well, without looking at the lighting to the outside, 'cause I want to ... I'm kind of splitting it up into what you will see when you get to this stage, so I'm thinking what's the features you're going to see, what are the features you're going to see when you get to this point. I think from anywhere from this side out it's an exterior thing which I'll have a look at once we know what's going on inside, but just from this point I've picked up on those a)because they're quite unusual, b)because it's a nice rhythm, you'll be able to do something that people are going to pick up on, they'll see that it's replicated, it's going to pick up this surface, your quite tall features, and also because it continues through the space which will be an ideal opportunity to ...

-So you basically like this element and it's not that you want to like it because you think it's interesting for the space, it's not because you think it's a good opportunity in the sense that this is what we usually do, so ...

-Oh, no, not at all. If anything, I'm trying not to think that because it's residential and people have got to live in it, so it's not so much about ...I'm trying to think of it as in what's going to be nice and what's going to work well, but what's going to be , you know, what are people going to be able to live with, so, yeah, I don't really think it's so much about ...especially on the inside, it's not so much about making a big statement, like, I don't know, I'm here to live in a house that was, you know, really lit. Couldn't do it. Possibly on the outside, but ...yeah, I mean looking at this, we've got it here as well so there's opportunities to...Maybe I wouldn't treat it in exactly the same way, but I'd definitely want to highlight it, I think.

-You differentiate between interior and exterior or between this vertical and this sort of horizontal one?

-I think I do ...I want to give them some kind of control, whatever it is, whether it's colour, or whatever, I want the user to be able to control the space, because it is quite a ...it's an imposing feature. I think what I'd probably do is I'd distinguish between this run and this run, distinguish between areas rather than inside and outside.....So these are concrete...yeah?

-Yes, I don't know exactly, concrete or plaster.

21:52

-It's a solid material?

-Yes, it's solid (some unclear comments)

-So, this is covered, yeah?

-This is covered at the point where it meets the main volume and then it stops, it gives the full wide space an open feeling, and then it begins again when it starts becoming exterior from that point there, because basically this is your real exit, while your virtual exit is there.

-So, it's here and here? (Indicating on drawing) or is it here and there?

- ...so this is exterior basically...

-Yeah, so that is covered, but the ceiling level continues through here, right?

-Yes, it's like a tunnel, so if you think of it like a tunnel it makes more sense.

-So it's a nice opportunity to bring the outside in. So the door...the door's here.

-Uh, yes, that's correct.

-So, alright, I think it would be nice to ... whatever we're doing out here to illuminate the floor, the ground plain, it would be nice to bring that inside and continue that out, I think, a nice way to make the inside spaces and the outside spaces feel..

-Feel like it's extending, right?

-Yeah, especially if this is a glass door, is it?

-A what, sorry?

-A glass door.

-Yes, it's full glass so you don't miss the effect of this intense perspective.

-OK, so, I'm not going to draw it yet because I want to get an idea of what I'm going to do.

-Yeah, the more, you the better you discuss about it, it's the better for me because interesting things are coming up in the conversation.

-Alright, so the next thing you come to is this divide and I think you'd want to make these two areas feel quite different, personally I think, because otherwise I think it could end up feeling like one huge connected space and if you've got this run anyway, well you haven't actually have you, OK, that's cool. Er, OK, so I'm thinking some kind of feature around here, suspended possibly to make use of the high level, something to really bring your eye up. You've got those slats, it's a tricky one. Come back to that...

24:40

-So you're saying you'd be mainly in this area?

-Yeah, well I was thinking that work space, work space is all about real flexibility really I think, so I'd be thinking task lights possibly because I don't know what the furniture is going to be like there, with obviously something to give a base illumination (?), but then you've got this huge glass

window so that would be a good opportunity to...so, yes, we're going to suspend something in here, that'd be nice so it really gets framed in that window from outside.

-Do you think you want to suspend something because it's a high space...?

-Yeah, it's really high...

-Following this vertical thing?

-Yeah, I think ...was it 5 meters?

-5 meters, yes.

-That's high. That's really high. I think if everything ...'cause we're talking shelving, tables, if everything is quite low level, then potentially you've got this wall because it's curved, it's going to be I would say it's quite likely that it could be left blank, it could be quite difficult to hang stuff off there, you've got a large wall space, you've got everything at low level apart from this...I think it would be nice to have something suspended which you can follow up when you go up the staircase. So I think if I could get something suspended in here to illuminate this area, hopefully this area, possibly some extra, additional lighting here to pick up the...make up the levels here. Task lighting, maybe floor standing feature lighting something like that to give some extra focus on (?)...Ok, so that's that area....Now, what am I going to do here? So now we're coming through to the living room, the seating area, the kitchen, OK, so kitchen, we've got obstruction?

-Yes, there's obstruction from... (Unclear comments)

-OK, so, I think...OK, it's quite a busy kitchen, there's a lot going on there already, without introducing...

-Is there?

28:00

-Yes, I think so, well I mean, you've obviously got this right in the centre of the room, you've got all this going on around here, kitchens tend to be quite busy anyway, don't they? People love putting stuff in their kitchens. So I think if I could get away from introducing any kind of feature luminaires there, any luminaires that kind of command attention would be bad I think. There's a door there, so there's not really that much wall space anyway. So probably looking at...

-And then we only have this plain wall here. This part has the working bench there...

-So we're going to avoid wall, wall-mounted...what's the height here?

-It's 4 meters.

-It's still quite high then, isn't it?

-It is quite high. You can see part of the (inaudible).

-It's really high.

-And the window's quite high... it's up to underneath the beams, it's about 3.60, it's quite a high window. You can see this part of the room ...this is like 2 something and this ceiling's at 4.

-I think the obvious thing's going to be to stick down lights in there...so the obvious thing would be down lights blah, blah, blah boring so...

-Well, I'm not worrying, if you want to; I guess you want to give some general light ...

-Oh, yeah, yeah, but, OK, well, there's two reasons why I don't want to do that. One is because of the height...

-Meaning?

-I think it's high enough to introduce some kind of suspended fitting, it's high enough to introduce something, I think, put it this way, I think if it wasn't, it'd be a really, really high space, if there wasn't anything there to bring it down to a human level...

-So by mounting fittings then you think that makes it more approachable?

-Possibly, yeah. Suspending rather than mounting onto the ceiling surface...I'm thinking if I could bring something off the ceiling, just to bring the scale down a bit more, I think it would be ...it would possibly be a mistake to have everything at ceiling height. I personally would probably feel a bit uncomfortable with a 4 meter high ceiling in my kitchen, I think. But looking at the house, it's a fairly minimal

31:34

-Well, the idea is that you have a high ceiling, but it's not a void because you have a high window as well, and the view from that is immense, so you can see all the countryside round about with a one meter opening, you can see almost like there's no wall at all, so the feeling from that would be a bit different from what we're used to.

-Yeah, that's a good point. If you're standing here, can you see out of this window?

-Yeah, I think if you're looking low you can see out of that, yeah ...since we can see her, then probably....

-So, this distance, off the floor?

-It's about two meters, it's quite long.

-Two meters, so there's another three meters here. Oh sorry, two meters, four meters is it?

-It's three from, something less than three because it's about ten centimetres this one....

-Oh, right, OK. Pretty big. Well, what I was going to suggest is....

-This is quite hard. Perhaps you want something softer...The more sketches you do, the best it is for me.

-OK. I think I would like to ...I think I'd probably go a bit ... modern, well I say modern (sketching) do something like that. So this is some kind of suspended track, like a really thin little extruded, really nice neat shape. And maybe ... I want it to be higher than ...maybe only like a meter off the ceiling, maybe ...

-Can you do a sketch of that? How would you imagine that to be?

-Yes, sure

-Do you want plan papers?

-No, it's OK. This is how I usually do it. Just like a very simple box section thing. It's extruded....and also you've got opportunities to add a ...this is obviously direct so...this would go straight.

-Only down, then?

34:53

-Straight down then you've got ...put some colours in here...so we've got the functional lighting down and it'd be nice to add some kind of a secondary source, well maybe it wouldn't even have to be secondary, it could just be open backed, we could then put something direct from the ceiling to stop it from getting to be just a black void, but then I don't see why that would have to necessarily be white light. There could be some kind of colour involved. Maybe not green, maybe a slightly warmer colour.

-So in that way you would be dividing the space into a door...because I think it ties with what you said that you don't like such a high ceiling.

-Possibly. Yeah, you would definitely be bringing the attention to the ceiling, so maybe the answer is to lower it.

-And also yeah, it would go together with the (?... fan?) which is in the doorway it would be more decorative if it's wrapped around this nice fitting.

-I definitely think, possibly, depending on what the client thought about the colour thing, it wouldn't necessarily have to be colour, but, I think it would be nice to introduce something there, so it's not just purely a functional space. I don't really want to do very much to the ...I don't want to add like under the work surface lighting or anything like that because that's going to bring it down low. So that's probably what I'd do for the ceiling or for the functional lighting. And then I probably we've got to do something to the cupboard shelf. It looks fairly deep....

PART TWO

-OK, so where were we?

-We were talking about, yes; this suspended fitting on the kitchen and...

-That section...

-Yes....this is the section of the cupboards.

-OK, so we're going to go for...so the bridge level is here, slightly high, isn't it?

-Yes.

-OK, so that would be that high, right. So, we've got a suspended fitting here, somewhere round about there, yeah, OK. And these, it's not glass shelving or anything?

-No.

-It's just shelving.

-Built in a recess inside a concrete wall.

-OK. And they are curved. OK, so what are we going to do here? So that's 40mm edge to edge?

-Aha. It's about 14 depth.

-14 depth. So it looks to be about 20mm flat back. There's not much room there. OK. What I want to do is, I want to light down each ...each? line of/linear? Recess so that you are highlighting whatever's inside. Not for a feature necessarily, just for ease of, you know, getting stuff out and then also it would be nice to carry that through to these like niches out here to again kind of reinforce that idea about outside and in being one, but it's just getting something...

-Would you go for a point source or something more linear?

-The problem with a point source is how can you get a point source into each one?

-Don't worry about details, you can detail them as you like. It's not as if they're final drawings.

-Oh, alright

-It's a very early stage, if you want to make it 50 or

-Well, linear, I'd want to do linear to give it an even wash, but looking at this, just looking at this, I mean, obviously with the curves, it makes it slightly more difficult, but for now, I'll have it linear. So we're going to have a nice linear gradient down each of these...which will really help to split that wall up. And to be honestthese are quite bit, these ones, 2 and 3 meters, I'm wondering whether it's worth introducing a wash-up as well.

-You want it to look more even?

-Well, just because it's such a big ...my worry would be getting something that could wash sufficiently down that wall to make it look like it's done properly. But that would just be a case of finding a fitting that could do it right. So, yeah, I'm happy with that...

-So, to say it again, it's like you're not ...you don't like the thing that's going to be intense? Grading because of the height. You want it to be more uniform?

-Yeah, I would be worried that if, if we were to stick the same ...so it would take these two niches, the small one and the really big one, if we were to stick the same fitting in it, you're either going to get this one looking nice, and this one's just going to do that (04:45 sketches) or if we get this one looking nice, have a nice, beautiful...this one's just going to be like a big, glowy box. I mean it can be done, it's just, I mean, if you start looking at ... as long as, I'd say, it's the same manufacturer, that you'd be alright with the colour temperature being the same. So it's not too much of a worry.

-So technically, just write down what your initial aim is.

-The aim is to be...the consistency, to make sure that it's, that you can look at that run and know that it's supposed to be the same treatment. Yeah, I like that, it's nice. OK, kitchen done. So, now...that should probably go over there as well. OK, I'll stick inside. So you come back to the (inaudible) area. We've got the bridge we can light off, we've got this is a ...oh, there's no wall here, is there?

-No, there's no wall.

-Right. This is sunk in.

-Yes.

-Right. This is the area that we can...

-Steps ...

-So if you're looking at that, looking from there, you've got your sunken area like this, with your, what is it, your fireplace going to be coming off here, so let's just draw it on. Then you've got your steps here, yeah?

-Yes, exactly. Then your seating begins, yes.

-So, what, it's just ...OK. So, when you've got your seating, is the recess depth enough to ...so this is, this is flush? The seat backs....

-No...

-The seat backs sit up, right?

-Something like that, right. (07:29 showing on computer)

-Oh right, yeah, OK, cool. OK. So I'm thinking, there's no structural backing to this, it's just this here is literally the back of the sofa.

-Yeah, the floor just goes down, and then the seat is normal, there is no wall behind it.

-OK.

-Not that, it could be, I mean it could change, maybe you could have a small, short wall there.

-Yeah, you could.

-I haven't thought about it really. This is one detail...

-Oh, yeah. So you're envisaging say like a TV in here?

-Yeah, I guess you could have a TV, it's, yeah, that's the place to put it.

-So what I'm thinking is, I don't want the lighting to impeach on somebody say, sitting and watching TV, or reading or anything like that. There's got to be some feature there, possibly...what's the height there?

-It's 2 meters.

-Just 2 meters, so that's quite low down. Oh, 2 meters from floor height, or from the sunken height?

-Sorry. I've got it here. It's 2.20.

-It's 2.20, so it's still quite low.

-...it's not very high, no.

-OK, well that's fine. I don't really want to encroach on that height, so we've got ceiling recessed, we could have some form of cove in there possibly. What I want to do is, I want to get the light on the seating, I want to keep it away from...I don't want to have glare sources in the ceiling, you know, to cause problems while your watching the telly.

-But there are going to be some books in there as well.

-Yeah, yeah, yeah, so I'm thinking a nice thing to do would be to ...OK, I think, going back to what I said before about having features for the sake of having features, I think it's...I think to be safe I would probably have a living source here to ...

-Can you give me a detail of that?

10:45

-Yeah. You won't want have it too far back, because you don't want to be washing the tops of books or whatever's in there, so what I'd probably have is, I'm going to draw this, is a section through here, so, if we've got our ceiling pane, we've got a short drop here and then we're into the first ...that's there, so we say that's the recess depth of the cupboards, then we're out and down, that's your floor there, and you've got a shelf there...So you've got your books, or your vase or something...You want to illuminate this side, because that's what people are seeing, so my initial reaction would be to put something here which is going to shine that way. The only problem there is that if you've got your TV, you don't want to be shining directly onto the TV surface.

-Yeah, but I guess you can control that with a simple switch, or ...more complicated controls...

-Yeah, yeah, you could just do it back, so, I think that would be, that's good, yeah, that's going to be my initial concept, anyway.

-If you were going to name this effect, how would you call it? If you were to put it on a mood board and just put a name for it...

-If I was... this...

-This you were describing here.

-It's almost kind of feature lighting, but it's also highlighting or ...no highlighting. So it's the kind of effect you'd use to light a picture that you were hanging on a wall. I don't know what I'd call it. I'll have to look it up. That's one thing I'm not very good at, is names for conventions and stuff. So, that... I'd have, I'd want to uniform really that, but like you say, you want to have control, to be able to knock bits out or knock whole runs back, maybe even split it up into sections that are individually controllable.

-As you designed the library, can you put some separate control in place?

-Yeah, 'cause you're never going to be able to figure out how people are going to use this space, so I think the key here is that flexibility. Are these partitions?

-Yeah, indicative. Quite big lens to separate...

-So that would be a good way to split it up. I mean you'd have to look at...you wouldn't want to give some body, say, full control over all, what is it, 2,4,6,8,all 10 compartments, that's a bit overkill. You definitely want to look into it, or I'd definitely want to look into it, to try to give it some flexibility.

-So, you'd go for the shelves and then you would put something on top of the sofa, or not?

-Yeah, well, I'd want, I'd want to get light here and here, for sure. Obviously you would get some sunlight in here. So, do you know what, I'm thinking, I'm thinking like a cove would be nice? Yeah, we're going have a cove. So we'd have to have a look at sorting this ceiling out if we can do it. But, presuming it's possible ... I would...

-You are free to change even the architecture if you think it would be more suitable for the lighting.

-Knock it all down. This would be nice because it would echo the geometry of the house. You're kind of almost following the angles in the kitchen so you're creating a stripe in the ceiling which would give you something to look at in the ceiling without creating a glare... so that's going to give you your uniformity.

-So it's going to be almost like a square cove with a translucent cover, like so you have the geometric shape of the square glowing, or it's going to be a cove...

(16:07 sketching) -I'll show you the detail. So, that's your basic curved section. You've got your upright source, so you're bouncing light, you're bouncing down, so the only thing you'd have to have ...you wouldn't want , I wouldn't want it to have a cover on it because then you'll kind of make it maintenance a lot harder, but I think it has to be a much more...

-OK, a glowing hole, then.

-Glowing hole, that's it, yeah. I think that would probably do it. I don't think you'd want to have anything more than necessary, because you don't want to overlight it... plus if you've got the fireplace as well. OK, so, kitchen done, living room done. Now I'm not going to do anything to the fireplace, that's just going to be overkill. So the seating area with the skylight, so, we have to get the light into that area, we can't light it from the main ceiling. So, that's here, right? So, this is like a, what's this room used for?

18:14

-It's like a secondary seating space; it's more like when you enter you can sit here. I thought that this is more like winter seating and this is, can be just like a secondary sitting space, nothing special about it.

-Do you think it would be used as a dining room, or as a TV room?

-Yeah, you can change the furniture and use it as a dining room easily.

-I would have thought that's a good space for a dining room. And this, this isn't glazing, is it? This is just a wall.

18:40

-Err, no, it's quite, yeah, it's blind and the only access you have to ?

-Alright, so, what I'm going to do...right, this wall looks like a, I'm thinking that this room is probably going to be used as a dining room, because you don't have one, and it's really the only place you could have one, so I'm going to be slightly more formal...so, we're going to allow for some...OK, I'm thinking that this wall is probably going to be used for some art work, or, there's going to be a feature on that wall, possibly on that wall as well. So, I think what I'd do is I'd allow for some picture lighting of some description and obviously I'd talk to the client.

-What would you like to put in the end?

-If they think, Yeah, if they say there's going to be nothing on there, then there's no point putting something there, but I definitely think something, very simple, but something to highlight

whatever feature's going to be on that wall. It's going to be there. So I'm envisaging table, probably you're going to have some kind of ...chest of drawers, something like that anyway, display surface. So, it's going to be quite an imposing room because of the lack of windows, so I'm going to want to bring people's attention to the roof light, which I'm going to do by ...have you got a detail there?

-Yes.

-OK, so I'm going to, I'm going to have a cove here, keeping it simple, so we have the cove, but on this one I'm going to have the option of introducing a colour aspect, so ?I need a big? source.

-Do you know why?

-Because I think anywhere else it's spoilt, anywhere that I've looked at so far it's going to be too much, but I think here it needs it because otherwise you're going to have this big, black hole in the ceiling and it's going to be quite, well you're going to look up and what are you going to see? Well, you're going to see the hole and then you're going to look around and you're going to have these full height solid walls which ...it's a difficult one, because you're not going to want to take the focus away from the walls if they've got artwork on them, but I think you've got to do something to it because it's such a big part of the room. So, and I think it's the only way...

-It's the only way of making, you think the space is quite high and it's your way of making it more familiar, putting more focal points?

-Yeah, I think, it's a nice, tidy way of adding a little bit of drama to the area, a little bit of theatre, possibly, without going over the top. I'm not sure about the colour, I don't think I'd want it to be ...it's alright, I'd give it a colour, I'd give them the option of colour. I was going to say that I'd want, you wouldn't want it to be gaudy, red, green and blue fazing/phasing thing that went on 24/7, but if that's what they want, that's what they want.

-You're in command of that, so you can convince them they did the right thing, I think.

-Well, in that case I'd say a subtle colour, maybe not even a colour shift, but an accent colour which may, I haven't looked at these yet, but I may pick those up, like a, a soft shade of some colour. So the trick is to get some usable or functional light in there. How are we going to do that? That's a tough one. We've got a little space there; I doubt very much we could use that. It's not centred over the middle, it doesn't open or anything does it?

-Em, no. It's quite huge to climb 4 meters and open it, for day lighting. A little bit more complicated, to make it open...

-Yeah, definitely. I don't want to

-You propose something for the roof light, what are you thinking of right now, what is it, you don't want a roof light?

-Oh, the cove...

-You're keeping the cove there?

-Yeah.

-And you want to add something else, or?

-No, I don't think so...

-So you move to another area....

-I'm trying to think of how I'm going to get some functional, some ambient lighting into this space. So far I've kind of skipped that, I've gone for the accent, aesthetic stuff, but I haven't...

-You don't have to in every space, because not every single space is going to be purely functional. This is a point for me having if you're planning to use it as a dining space you won't need much light, won't you?

-No, but at the moment I've not given them any, apart from what's going to come from this and if the cove is going straight into a glass surface, most of it is going to go through...

-Unless this is a very high reflective area on the surface, to bring the light back down...

-Yeah. I'm thinking it's still going to need but the ceiling space isn't particularly helpful. I can light from here, I can light from here (26:38) but without having...OK, what are we going to do? It's not particularly easy area, so I'm thinking, if I can get, if I can work some kind of slot ...I'm not sure I like this, but if I could work some kind of slot into the ceiling, with some hidden ...it's a shame that that can't go... what I was going to suggest is having, instead of having...

-Do you want to...I mean you can propose that, if you want to cut the...shorter...

-OK, fantastic so what I'd do in that case what I'd suggest is that we almost treat it like a gallery space. So I'm not sure if this is the right detail, or anything to have because it's quite imposing, but if we had like a slot with some recessed, directional spots. I mean, they wouldn't have to be super high wattage or anything, but if they were hidden away so that they could be directed at artwork, directed you know, to give some ambient to the space, that would be better.

-That would solve a lot of problems, yes.

-And there'd still be flexibility. So that's what I'm going to do there. So I'm going to get rid of all the wall-mounted feature lighting here. Cool. So. The work space. We're going to have a feature. It's here, isn't it?

-The work space is here, yes.

-OK. So I'm thinking something ...to really give some drama. And also that's a bit low, and also we can use it to work in our favour. What I'm thinking is some sort of cluster of small, glowing objects, whatever they are, it doesn't really matter at this stage. The point being that we can be quite flexible with where they are, there can be quite a lot of them, if we need them to be, and we can position them at different heights, different spaces to really get some nice base light into this area and they're going to shine, they're going to be viewed from all over the outside. That's OK. I think it would be nice to have something quite impressive, viewable from out there. Why not. So that's what we're going to do there. We're going to give them some low level task lights...We'll probably need to have some, yeah, I'll tell you what, we're going to have some more wash down lights, or wash lights, I should say.

-That would look quite uniform on this funny wall.

-So, we'll get the big wall, but we'll also get some on the floor...so then that wall's quite evenly lit. I mean I don't really mind if that's a bit brighter than that, it tails off there. I think that will do for that. I'm hoping that I can use these to light the staircase, because I want to avoid ...I know that we've got this fantastic handrail and I think if we try to put anything in it it's just going to possibly cause more glare problems with these guys that are sitting down here, so I would ...what's this up here?

-That's the ending of the stair for the roof, because you have to access so it's quite flat, you know.

-Oh, right. So there's a door there or something?

-Yes, there's a door. This is the plan of the roof, here we go out.

-And this is a, is it a solid top?

-Yes, it's a solid top. Sorry, no, I have put the roof light there. No one has so far there, so I just forgot about it, yeah (32:30 indistinct speech) And everything is flat, but obviously this is 5 meters and then you step down to those and those.

-So, do you think that people are going to have like furniture up there and use it, or is it just for maintenance?

-I think you would normally use it if you put it in a Mediterranean climate as they told me it looks like its style, you would use it, but there's lots of stair seats and yards on the ground floor level, so...

-Yeah, people love being up high, they'll use it. That's here, right? Oh no...

-I've taken the roof up, this is how it ends up...

-Oh, OK. Right, so I'm going to want to get kind of similar to this, I'm going to want to make a feature of that higher space so possibly I'd try and work in that same detail, that same cove detail to just get a little bit of colour.

-Same as this one?

-Same as this one, yeah. Just to get people to look straight up and out, really, entice them to go up there, but I think I want to keep that kind of quite a low load of lighting, obviously it's got to be enough to navigate the space. I'll come back to that I think. So, for these, this is 35 mm, it's quite small isn't it. Right. So, I want to light, I want to wash light down these, wherever they are. I want to push light down them. There's quite a lot of them, so, about 35 across..

-5cm thick, 35cm back, 150mm

-So this is about 350mm wide?

-No, this is about 25, from the height of the external wall, the thickness of the external wall.

-250mm. So they're not very big are they? OK, I'm going to go for it; there's going to be a fair few...but I think the only way to do it that I can think of is to have downlights...

-So they could be like on the ceiling then?

-Yeah. I think, I'm not sure about colour. I don't see it as much of a problem,

-What do you mean problem?

-Say, like having an RGB LED down light up there.

-Would you want it to have colour then?

36:10

-This is what I'm thinking. I don't know. Possibly no, actually, no we're not. They're just going to be...they could just be low voltage, just tiny, little metal halide downlights. We want them just to get some pooling on the floor, but also I want them to push all the way down, well, most of the way down. I want there to be a clear gradient and then obviously having one it's going to light either side, so we're going to do that. So that's going to do that and that's going to do that. So I would put this over here, underneath...and this goes all the way up to full height.

PART THREE

-Alright. I'm going to keep this import I think, looking a bit flash. Just a run of very...

-I guess they are wide beam, or are they narrow?

-Yes, wide beam.

-(Inaudible)?

-No, I don't want bottles, I just want kind of, you know, just give some basic information here, maybe, I'm looking at something that wouldn't scallop these walls too much, so I'd want it to be quite, maybe with an opal...?..., something like that. So that's going to take care of that. I'm thinking downstairs we've got the feature here, we've got the feature here, we've got the feature here, so that's pretty much it, so the rest of it I'm just looking at filling gaps. For instance, I would

calculate, well I need to get some light on to the...I wonder if...This might be cool. If we carried that on, split it, that could be quite cool...So what this is.....

-But you have a ceiling difference.

-Oh, there's a difference of ceiling?

-Yeah, this is lower. This is at 4 meters, and this is at 5 meters. Ah, wait, you said that this is going to be at this height, right, so this is 1 meter down, then, you probably...

-Well I'd look at...

-Yeah, but this is, well, you can continue, I guess, if it's suspended.

-Yeah, so the bridge level's here, yeah? So people are going to be about this tall. The one thing that I don't want to have in this area is to look down into the top of this, if this is open.

-So, it's like, if your bridge is here and your kitchen is there, then probably the fitting, your suspended fitting is...

-So, this is the ceiling, right?

-This is a balustrade.

-Oh, right.

-This is the 5 meter ceiling and your kitchen is here, ... ?...would be somewhere there.

-You see, the one thing I'd be worried about with that is that people would be looking down onto the top of that fitting, which is bad, so....Perhaps...So perhaps we ...That's annoying...I still want to do it, but we'll have it with a closed back.

-03:05 (adjusts camera) we're losing the focus...

-Yeah, OK, so, I like this idea, so we're going to have it with a closed back, but we still need to get lighting onto the ceiling.

-So, basically, what you would be seeing now...where is the section....There it is. So basically you have your bridge there and if this follows here and here you'd those vertical like, those vertical and a horizontal element crossing like this.

-Yeah, I don't have a problem with that.

-You could put it at ...eye level, like there.

-So this is the level of the kitchen?

-This is the level of the corridor. It is at 3 meters. The kitchen is here, 4 meters.

-OK, so if this is being suspended, I'd like to have it continual with the break, so ...the break and the second break there, I think it's important to have it on the same height. It's just how you would then get the light back on to that ceiling. Oh I don't know, I don't know. I'd possibly; I'd have a little play with that, that's something that could be sorted out at a later date. The principle is that it's a bridge on these two areas...

-I just wanted to make sure that you have a picture of how this is going to look with the ...?...

-OK. I think it will work well. OK, so that's going to provide lighting to the bridge as well, I would hope, maybe not actually...OK. So outside, in these little outside areas, I'd like trees, fairly straightforward. I would, I think, so this, you're going to get light out of here which is going to light this area, you've got light here, so I'm not worried about this one, that's fine. This one, you've only got this, so either we leave it dark...to be quite moody, or we introduce, I think we'll introduce some, a wall-mounted fitting of some description to give some...

-At low level?

-High level. What I'm thinking of is, if you're looking at it ...I don't really know how it goes, but if this is the wall, does that make sense? If you're looking that way, possibly something that would sit at mid-level...

-I see, OK.

-And then you could do something, you could get something that maybe had a straight line and then a , sorry, I don't know, something like that.

-Some kind of light fitting.

-Yeah. I guess I'm trying to create little pockets of interest, could be quite cool. So we'll do that there. So, you've got this long area which I ...this is the bit that's covered, right?

-Yes, it should be a dashed line...actually it is a mistake there. This should be over here.

-Oh, OK, well. I think what I'm going to do is use this wall. I'm going to...could this be textured or something?

-Yeah, I would imagine that it would be stone work.

-In which case, what would be really nice is to have some...there's no ceiling there. Well, what I want to do is have something that's going to wash down that, something really close and directional that's going to wash down. Or, possibly up, either way, it'll pick up that stone work, or whatever it is.

-So, you want grazing?

-Grazing, yeah. That's it. So, we could do it up, but I'm always worried about putting stuff on the ground because of the glare, so, and it's outside, so it would have to be fairly sturdy...

-Don't worry about the functional aspect, you can always solve it, I think...

-That's what we're going to do then; we're going to treat that wall as a single entity. It'll be really nice to walk down here and see this whole wall...

-Yeah, I'd agree.

-...so, we're going to graze it, a linear graze, not scalloped.

-Why not scalloped?

-Because, I think it kind of, it tends to break it up. If you...I was thinking, it's going to look nicer, it looks more considered, designed, if it's...I think this (09:45 demonstrating on plan) looks too easy, when it's done like this, it looks more of a ...well-executed...continual...it's almost like harder to pull off, if you like, it's harder to detail, harder to get done, so that's what I'm going to do.

-OK.

-Alright, I'll move upstairs then. OK, so we've got the bridge, the bedroom and the toilet. (**10:44** indicating on computer) So what's this used for, is this storage?

-Um, yes, I guess it would be storage space or a dressing room....You could have a sofa in there and it's like an entry...

-OK.

-This is the main wardrobe...

-Oh, so that's the...OK.

-That's there a wardrobe. OK. I hate doing bedrooms.

-Again, you don't need to do something you don't like, just leave it simple if you don't think it's very important.

-Well, it's important, but it's something, you know, the bedroom's like your sanctuary. It's got to be, if it's done anything more than very straightforward, chances are, someone won't like it, chances are, you know, the person who won't like it is the person who's got to spend half of their day there.

-You shouldn't bother with anyone, the users, because there isn't a user. You should be concerned about the design...it's what your beliefs are. That's the bad thing about real life, you have to compromise your designing ideas for function, but that's not the case here.

-In that case I'd want it to be fun. I'd want to introduce something more theatrical if you like. So, what, this is glazing?

-This is window, yeah.

-And this is fireplace? Ok, so, no wall, no wall, no wall, wall, wallI think it would be quite fun to look up here and, you've got this translucent...is this all translucent?

-All of it.

-Alright, cool. So I think it would be nice to have some kind of...to see something up there, but not, you're not going to see right through, so I'm thinking if we do something to that wall...downlights...do that wall as well...Yeah, I'll do that. We'll have, we're going to have some colour up here. So, the thinking is that it doesn't really impact on the bedroom, but it should be enough to mean that whoever's kind of coming through the door, if they look up, they're going to see this bridge and they're going to look up and if they see this kind of glowing light kind of just seeping through it. I'm hoping that this won't be a fully translucent material...

-No, semi.

-It's really going to act like a light bulb, almost.

-Exactly.

-It'll be quite cool.

-That's the idea.

-So, the bedroom. So you want to give them flexibility, so I'm thinking either some kind of third party task light or some reading light built into the ...

-Furniture?

-The furniture, yeah. For reading. I don't see a problem with having lighting to the, what do you call it, the shelving up here. Probably similar to what we're doing down here. That will just be a white light, so this is all functional, so this is going to be all white. We've got the glass...I think these are probably, I would imagine that that would be mirrored, something like that.

-Oh, so it'll be all glass again.

-Yeah, OK. Either way we need to get some light into this, so I would imagine the easiest way to do it is going to be down, this wash lights, that sort of thing. It's not the most exciting thing in the world, but we really need to be...so they're going to give you the functional light to here and to the floor. ...I'll come back to that. Err, bathroom. So you want a ...OK, yes, so, that's pretty straightforward really, isn't it. It's a ...directional sources to compliment the...whoever's looking in the mirror.

-Mounted on the ceiling?

-Err, you know, they've got to be in front of the user, so maybe, yeah, it's...there doesn't seem like a lot of wall space there, so something in front of the mirror, this is where the guy is standing, sorry, that's not a fitting. Something there, something there, keeping it simple, I think.

-So, what is this is it like something on top of the niche, or inside the niche?

-Yeah, we're going to go inside the niche.

-Imagine it here, or something...18:18 (sketching)

-Yeah, this is the niche?

-Yeah, and section....

-I would hope that would give enough light for someone washing their hands. It should do. So, we've got something in here. This...is this a full height?

-It's 2 meters, all of this wall here and this...

-Alright, so it's not full height, is it? OK.

-We need to give sort of privacy for the toilet. Something to ...?... the room. It doesn't really have a function.

-OK. Do you know what, we're going to use the same thing that we did in the dining room. It's going to beyeah, this is going to work. So, stay with that kind of code detail and we're going to use the same repositionable...not a track, but ...same as these, sorry. So you have your recess in the ceiling, and then these are, they come kind of come in modules, don't they. So, with a couple of...

-Like gimbals that you can reposition.

-Yeah, I'd hope that we could find a really nice little one. So, I'm thinking a cove, more like a channel here, and then what I'd want to try and do is get a channel that we can run the whole length from here to here, this is so going to cost a fortune.

-Who cares!

-Yeah exactly. We'll do that.

-But this is lower ceiling, eh. Again. Sorry to be a pain.

-No, that's fine, that's fine. So where does the ceiling drop? Is it here?

-Yes.

-Right, OK, so we'll do that. So then we could, we'll get our fittings in here to wash this, you can have a few in here to either wash that wall or just provide light on the floor. We'll keep this in here to wash this, but we'll use this, we'll position it so that the lights get cast in front of the dude doing his ?make-up? and that gives us room to stick another however many we need in here to do functional and then you'd probably have to get a couple of, or a down light or something in there, just simple, I think. We've got enough features. We'll still get the colour in here. Back to the normal.

-OK.

-Then the roof, I'd probably just put some low level functional stuff, just to get light onto the surface.

-Floor.

-Yeah. Outside, I don't know. Maybe, if this is your approach, I think it'd be nice to highlight some of these changes in ...step changes in height, so maybe you could, just wash this little area, do something with that little area. I mean, I'd have a look at the changes in height to see if there's some way we could create a little view coming up here. Actually, thinking about it, no I wouldn't, I'd keep it dark. You've got this big window, we're lighting here, we've got light here, here, here. No, I'd leave it.

-You'd leave it, you mean just let them from the windows in?(?)

-Yeah, get a little bit of contrast going.

-Nothing, so the theme that you proposed before for the roof, does it go, or not?

-Yeah, low, but I'd have it switched; I wouldn't have it on all the Hughe. If they're going...

-If they're using the roof...

-Yeah, yeah.

-OK.

-I think that's it. Apart from the bridge. I would have...OK, so we've got down lights, so this is the same ceiling height, right?

-Err, yes.

-So, we've got down lights here. I would be tempted to carry on with that spacing, maybe put one. I'd waddle it and see if we could get away with leaving that area empty, 'cause I think...

-That's fair enough. It would be too much...

-Maybe get rid of that one and just see if this, if we've got enough light there. That's it, I think.

-Yes. So, if we summaries this, you took down space by space, examine the function and the configuration...So you normally approach them like that, you see....

-I know what you mean. I think what I usually do, what I would usually do...I wouldn't want to treat them as individual spaces, totally, because then you don't have any cohesion, but I think it's important to work out the needs in each space before you decide on the theme, if you like, because it may not translate over to everything. So, I mean, looking at this, I didn't set out to do it, but it looks like I've gone for a very geometric, simple, simple system.

-Are you following a master plan, your proposals following a bit the geometry of the plan...?

-Err, kind of

-Apart from...random...

-I guess so, yeah. I think, I mean this stemmed from the shape of the room, this stemmed from the need, this stemmed from the need, so, I mean, if I, it's got to be a balance, I could have taken that shape, or you could take that straight-edged theme right through the whole scheme, but then I think it could end up looking like you've just run with one thing, so...

-No, I think it's quite complete, and thank you very much for that.

-Sorry it took so long.

-No, it's better for me, but it's bad for you, that you want to go home and I delayed you. So you're very tired.

-No, I thought it was going to take longer than this anyway.

-How many years of experience do you have, so I can put it down in my....

-Two.

-Two years.

-Only two. Was that helpful?

-Yes, very much. You did a lot of sketches which is very useful for me, because I'm going to use it in my?....., like this subject...

-Yes, that is pretty much how I'd do it, as well. Cool. I'd be interested to see how different people do it, actually.

-Yeah, I can show you when they're done.

-Yeah, you should do. You should make like a big...get all of these and put them up or something. Good stuff.

-It's interesting to see that people are completely different and unpredictable reactions to this and some even, when I was designing it, I didn't have a big concept, but they said you want to do this and this and that, and I said I didn't realize that when I was doing it. Well, it's very obvious. So, it was fun to have them saying my intentions when I was designing. I wasn't aware of.

-It's good. I guess it's why it's important that you get different people in to light stuff, otherwise you just get something completely different from what it could be. Cool.

-And your background is in industrial design or in interior ...

-Product design.

-Product design.

-That's what I did my degree in.

-Did you have any experience in product design or did you just jump from that to lighting?

-Err, a little bit, yeah, kind of freelance stuff, not huge amounts. I worked for a couple of different product designers, well a furniture designer and a product designer, but never really, it was always, to be honest, just making stuff for them, it wasn't actually designing, it was very low level stuff. So this is my first, this is my only real experience in actually designing.

-OK, alright. Thanks a million for this.

-That's alright. When are you doing the next one, tomorrow?

-Tomorrow. Tony's coming.

-Are you going to leave this here?

-I don't have a locker to put it in.

-A locker?

-Yes. Or, do you...is it something like a cupboard, I don't have anything, so, could...

-Stick it in my drawer if you want, or, I'm sure there's...if you want somewhere to put it, stick it in my drawer or...it's going to be safe, obviously. We always leave stuff here. Yeah, if you want to stick it anywhere in my little cabinet, that's probably, better.

PART ONE.

00:00

Briefing takes place

12:35

-I suppose the first thing will be, in approaching this or anything, possibly because my background is in exhibition work, is that I tend to think about the 'routing' a lot. As to how people move through the space and whether there is a specific direction. Now, obviously the domestic... you are going in every way. How you first approach and how you first see it would be quite important to me. That initial impression. And would be because I am assuming that this is a sort of 'funky' house. And because of the way the spaces have been designed, that they might entertain quite a lot. Because to do this without knowing how a client would use it; I find it extremely difficult. Because I tend to make up... you know we do hotels and I tend to make up how people use spaces and how they move through them. So I'm gonna work on the assumption that they are going to have parties here and even the areas like... Well that's wrong. I'm not designing it for that. Even things like the workspace that might be cleared for that. Because you're not showing any furniture in there. So I'm going to just assume that it's flexible or that it can be moved if I wanted to be. I guess that brings home how much I rely on a very strong brief from the client. What they kind of want...

-When you say client you mean the people who are going to use it or the architect? How he conceived the space and what he wants?

-Oh no. The people that are going to use it. I'd be less interested in what... I mean it depends who is... I might never meet the people who are going to use it. I mean the architect may be the client. I've done domestic buildings before but I have never met the architect and they have led me by saying: this is the style we want. But I suppose that I tend to design in a style more often than not. So for instance if the client or architect were really hot in energy efficiency, then there is a lot of things I wouldn't consider; immediately I would be looking at a minimum number of lamp types before I start. But I mean why don't sketch up some ideas and...

-Lets say that we exclude any practicalities wherever that needs...

-So no budget, no energy efficiency?

-Yes.

-Ok. I've never done a job like that!

Jeff chooses two colours for high and low level.

15:18

-I think that the idea of having interior/exterior spaces; that's quite contemporary and looks quite popular at the moment. So I would probably think to emphasize that by having the same light treatment to these niches as to those niches and to these (fins), these and those. So that there is some kind of link. I know you want me to exclude practicalities but for someone like me who designs in a very practical way....

-I know they can not be excluded. I am saying that to free you not to restrict you.

-Ok. The number of lamp types I would use in domestic would be minimal. Different lamp types... because practically you're not going to use that. But lets forget about that for the moment. So is it ok just to mark up these plans?

-Yes you can scribble on them.

-Ok. So let's assume that this is my low level.

Providing more pens for him.

-These are full-height ribs? Yes so, let's assume that I'm going to uplight and downlight these. And one of the things I suppose I would be asking is about the use of... If any of the clients was interested in the use of colour. I am drawing this on top of each other... they are the same fitting: an LED uplight and an LED downlight which are in different colours.

-So it's up and down.

-Yeah the one is in the ground and the one is in the ceiling. And they could have two different settings so they could have white from the top and red from the bottom or something. So if it is... of a day you could have it in white or if it was an evening or a specific function you could have it in red. I'm quite a believer in giving clients as much flexibility as possible. When I tend to program I tend to do it with clients present and not very prescriptively. So I give them four scenes and say: I am happy to change any of them or... I don't design in such a way as to make it impossible for them not to change it after I've left because that is not the way that I work.

18:20 I guess the same thing could be done here....

Jeff differentiates between his personal taste and his professional reaction to lighting a house and is prompted by the interviewer to take a personal approach. He also remarks that the architectural style of the building is far from the Victorian/Edwardian styles most frequently to be found around London and consequently that he has experienced as a home environment.

21:22

-I would assume that this wall (curved wall) would have some kind of linear feature on it. At the top and bottom. Probably picking up on this. Do you want me to mark on this what it is or will you run through...

-Eh... a quick description would be good. You could either say this or write it...

-The best thing to do is cold cathode. I wouldn't use cold cathode in a domestic property because it's high voltage so I guess you're looking at custom made LED troffer. So that's the same colour impact as those.

-If you could detail that I would be like a cove in the ceiling?

-The ceiling would be... I'd probably dig up the floor to do this so the floor would be recessed channel like that. Which will be made and then light will be made to fit into that. Whereas the ceiling - this is where you find out that I can't draw, which I've been hiding out all these years - might be more like that. I am sure that I can change the ceiling but I also assume that I can't change the floor. It could be the same. I wouldn't mind if that is a mirror of that. You don't tend to get much light. I'm not expecting to go very far I think this is a great wall and I think a lot of people are 'curved-wallers'; unusual and a real luxury. So there may be an argument that you could have something running round. I mean this is not easy to make. It may be something like that with a tube that goes up and down. It's quite an architectural thing but it could look really good.

-Is that linear as well?

-Yeah linear following the line...so you've four lines of light: one doing that, one doing that, one doing that, one doing that. Not practical, if you start putting desks, but as a feature for that wall because you're gonna come and see this. The first two things you are going to notice are this and the staircase. This is kind of solid. You have to look past it. And then this (series of fins). So that initial impact... although this could look good, these are going to obstruct your view of it. Yeah... pretty much. So you kind of got a blind spot to this. So I would concentrate on looking that and that. So when you first come in you've got that kind of 'wow factor'. If you work in the space then you'd probably want to do something quite different.

Now this wall here... is that a low wall? Like a parapet or something? Ok then, that's fine (incomprehensible). So that would match that detail again as if we were going through the glass. That's just an outdoor that you look out at, you can't actually... are these doors?

Clarifying the accessibility of the workshop yard.

-I am not a big fan of external lighting domestically...

-Why not? It makes it look like a circus?

-I think it's a bit of self-indulgent. That's not quite true. I don't mind people having lighting that they use, like if they wanted a couple of wall lights on this wall so that they could sit and have a smoke here, that would be fine. It's people who floodlight their homes. I just think... it's not. This is somewhere that you live; it's not something that you should be showing off to other people. It's just makes me uncomfortable that I give evidence of staying in my home of an evening. I wouldn't have my light on overnight. But maybe I am valuing privacy too much. Not necessarily this is house is kind of its own, isn't it? In the middle of nowhere, while I've always lived in urban properties. It's like I'm in a psychologist here... really!

Right! Ok... what else would you need in here? I presume this is going to be working light, yeah. I don't like downlights, domestically.

-Why not?

-I think in the bathroom and kitchen they're fine, they begin to give a very unflattering light – they tend to give a lot of shadows on people's faces. I think they are a bit of a 'cure-all/placebo' solution, when you can't think of anything else to do. I think they're quite glary, I think they are quite good in load of other commercial applications, but I've just taken all the downlights off my bedroom at my home for instance because it's just a horrible light. It's good for cleaning – I'll give you that. I personally wouldn't have them unless there's something to light on to. I'm just quickly thinking if there were some kind of sheer curtain here... because they do provide a bit of a sparkle. You could have them for that I suppose. But I would rather not. If I could avoid it, I would have no downlights in the whole place. But I don't think I'm going to get away with that in some where in the lower spaces so... I quite like... because it's more flattering, because it's more domestic, I would be looking for more decorative, low-level floor mounted lighting for most of these areas. That'd be my solution. Which I have to say is not a very... this is an architectural solution, but I could have only table lamps I would. So let's assume I will.

27:15

Jeff's having a quick look at the model. He asks about the solid parts of the staircase.

-I can see that's the only way to get to your bedroom out of your drinking downstairs. So, you're going to need some lighting in that. But I think you really could overdo the staircase and put loads of light in there, which I think is... it's a tiny staircase... If it was a restaurant where there are some defaults with the bathroom some... issues then it could be different. But you would need something so that you could see your way up.

Well, you can put a candle on every step I suppose. Or maybe... lets assume that I can do something with the central tube, shall we? The central tube will have to have some structural support. I don't know practically how this is going to work but has something... some glow to it. You know, maybe it's got an LED tape inside it or something.

-Inside you said?

-Inside the tube and it's in some way, without affecting its structural properties, it has either perforation or little cut-outs. Or just something. That's probably over the top but at least... it's for safety no so much for effect. I wouldn't light the balustrade at all, I wouldn't have any kind of upright to that I think it's a bit too much. I'll do this (living area) as a one... So this is effectively open-plan, isn't it? And the seating here...?

-It's again open-plan. It's just two steps down.

-Yes, it's lower level.

-The same is for the workspace though.

-The workspace... Oh the workspace here. I would have fallen down that. This might sound awful but I really think of the maintenance when I'm designing things. There's just no point leaving a scheme that you think can't be maintained. I'm against stair lighting; I don't think it's a maintainable solution. Nobody ever notices it's gone and no one thinks to replace it. I guess it could be something so long-life that you never need to replace it.

-The light in the steps?

-Yeah. Something like that. I guess I should rather not I suppose. But I am also aware I haven't got enough of working light in here. So let's assume that whatever I've done there, I put in here, so that that picks up that. I've got one of those here as well... I've got this on here. It's not recessed but I'm drawing it recessed because I've run out of room.

Joking about the last comment...

30:55

-This is a doorway isn't it? I mean there would be the temptation with all these portals to treat them like goalposts and have light... each of them... you know to light up the inside of the door... Personally I would think that would be very self-indulgent but I could see there is an argument for style effect you might have it...

Joking...

-If you think it's wrong don't do it, please.

-Well... it would go with the ribbing quite well because then these surfaces would have a lit value... I don't think I would do it there. I might do it on these. Anyway that's a distraction. Can I have just a quick look at the.... into the living and seating area. Yeah I can see the seating you could put something underneath the seating there. This is a commercial thing not a residential. You could put in a detail of hitting the floor, you could put a detail that floats this, you know like there's a gap between the floor and the sofa, because they never going to get battered up exactly but I would have thought that would highlight a lot of dirt, it's not going to get cleaned so I wouldn't personally do that. Where you've got the floor meeting that... unless it was a single thing... it's always going to attract problems, so let's not do that. The library is quite low, isn't it?

Responding about the library and showing 3d model.

-Because it's a focus library... it's a built-in library it's not an actual library space. Let's assume that I put in something on the shelves – I'll do a detail for that in a second. So that'll be something like... Let's assume for the library that is something very simple, like that per shelf, so that will be a linear... what did I think? I think an LED tape, a warm white. In the old days I would use xenon to do that, but xenon is probably a bit very hot for that kind of tight application next to some dusty old book.

I would probably need to have...

Changes coloured pencil – green for decorative.

-Let's call that a floor-standing lamp. I would imagine this would be movable. Do you want me to give you an idea of what that look like?

-Eh... no.

-Not really? It's a decorative it would also be contemporary... same here, isn't it? Probably something quite tubular because it seems that the volume of the space needs it as it's going up. So you try and... not match that but you wouldn't come in with some kind of old, you know Victorian, standing lamp with that kind of shade or frills... You want a sort of acknowledgement that this is a contemporary living space so I'd have that there. Otherwise in this area I think of... I think it's kind of difficult to find anywhere to put anything if I don't want to put anything in to the ceiling. So I would be forced, I say that against my will, to do something with the ceiling itself. To make it look like... I haven't got a lot of depth... I have a bedroom above, so assuming that I haven't got much recess depth I would put in something like...

-You're doing that to complement the quantities of the light...?

-Yeah. It's not bright enough at the moment. I am assuming that you might be reading here or something if you're taking down your newspaper or whatever... and that having light behind you isn't particularly useful. This seating is higher isn't it? This is all higher. It's just this...

Explaining ceiling heights and overhanging volumes.

-I don't know what it looks like but I would do something...

PART TWO

-Ok I am putting in some probably fabric, surface-mounted, backlit panels. Because it will have to be very shallow, they might be something a little bit like that. Whether the lights are there so that they can shine out. I am not quite sure what it's going to look like. It might be a diamond shape, it might be a circle. It might be that the bulbs are behind it so that the whole thing does that. I am not quite sure but it'd have to be quite shallow. And I want to use tungsten because the warmth and the yellowness of the light is complementary to kind of books and reading and you wouldn't want to have some kind of fluorescent or cold LED effecting here. I think this will feel separate from the rest of it because it wants to be warm and intimate and personal in there. I think this is less of an entertaining space and this is more of a... you know because it's higher and it's more open, it's got a different feel. So, that's what I'd do there.

Joking about ceiling height in the library space.

-Again I wouldn't see the need to put anything in there. I would assume that for a working fireplace I wouldn't try to supplement that with light, but obviously with a replace going in the evening, having dimmed tungsten lighting in these areas would be quite nice...

With this being higher and having a bridge over it...

Has a quick look at the model, the area of the entrance sittings hall and remarks that is a difficult space to light because of the skylight.

-I think this is made quite difficult by the skylight but given that I would want in a domestic environment, because I think most of the lighting should be at head level or low, to make it more flattering and warm and have some pockets of light... but you haven't really got the opportunity to put much furniture in here. Let's assume that I will have on of these in here as well, just that I can get the sparks from the fireplace, and then I would recommend some kind of wall lighting treatment using individual fittings, maybe in little groups. Something like that, probably fabric, at a height of about 1500-1600... something like that. So it has a warm dim tungsten glow to this area. I wouldn't be an uplight because I wouldn't want it go to the rooflights and it wouldn't be a downlight because it would make it unpleasant to sit underneath given that it's not very high. Maybe it could be at different heights to make that wall a feature. If I were asking the client or approaching them obviously I'd want to know about any artwork they would have liked to put on this wall because it's the most obvious place in the whole house, with the exception perhaps of this wall (corridor right wall), to have something on it. So maybe the lighting is the 'artwork' in my ideal lighting designer's world or it is integrated to the artwork in a way so that means you don't need a lot of other lighting in there.

-I haven't gone to that detail...

-No that's ok, but that's a question. Let's say that the lighting is the artwork here. In the living area which... that's higher still, isn't it? There is the temptation here to here to have... it's quite tricky with the bridge cutting across it...

-It's actually above...

04:37

-Yeah but if you're suspending something here... what I'm sure of in this area because it has the least kind of function... but lets assume that I would have some kind of chandelier there.

-Chandelier in the classical sense?

-Oh I don't know... No actually we've got quite a lot of stuff with fabric so I think it would be a pendant which had more of a crystal or sparkle... it could be glass, it could be contemporary. Well it would be contemporary probably... and probably one here, or an array of smaller fittings in those two locations. I think it could be nicer to have the refraction of light... and the slight kind of colours

that you get and the sparkle... going across here (living area) particularly because all my decorative otherwise are soft and all the rest of lighting is indirect.

-Is the position you put them in of any importance or you just want to light the space and its' the more convenient way?

-No the position is... A lot of the design I do and maybe other people do is very much dictated on where the lines are on plan. Almost kind of artificially because I'm looking at that and putting that (the chandelier) in the middle of that one (square in plan defined by projection of the bridge) but actually that line isn't seen at the ceiling because it's on the line of that cube going up. So that's being centred between there and there on the bridge and that on (other chandelier) is centred between there and there. That's why I put it in there. They will be equal and they will be equal. And then both are equal between these two walls. That emphasizes the fact that the bridge is offset. If that wasn't a good idea I would recommend of having a group of smaller fittings or a random arrangement there: maybe three of four there and two or three there.

07:08

Moving into the kitchen...

Expresses disappointment for having committed to a chandelier near by because he notices the suspended extraction fan in the kitchen. Expresses will to downlight the worktops of kitchen island and benches.

-I think designers don't think about the use of candles enough... I've done so many jobs where the client has used so many candles that they don't need an awful lot light in the house. But unfortunately they do not meet kind of regulations so you can't rely on the candles but they'll put off the light and light them on.

Goes for three downlights on top of the island and assumes further light in the extractor. Verbalises the reluctance to two place two diverse pendants side by side, not being sure if it would look good.

-I guess I'm going to have to put something in the niche. This is made more difficult because it's a kitchen. Because what would look good is having some little low-level lighting... it could be fibre or something uplighting the staff in here. But that means lifting staff over it which means they might get broken. That kind of vault of effect that you get in churches where a candle sits in the bottom of a niche to light up. It would be trying to replicate that but without using candles. So that the light... there's this kind of glow coming from the bottom. It could be an LED but... (mumbling to himself). It could be something like a fibre effect.

09:21

Realizes he's not sticking to the 'minimum number of lamp types' principle he expressed in the beginning is not delivered by his design.

-With the kitchen... This is the kitchen counter here...?

-Yes. There are no high level cupboards...

-No I just question the ideal place to have lighting because you would then have shadow-free lighting for your hands. You... I mean... god I'm ruining this!

-Can I ask you about the downlights you put on the kitchen island? Are the narrow beam or wide beam?

-They would be narrow. Because I wouldn't want to light the side of this. So the light would have to come down past them to kind do... that. I would be relying on whoever's under here to sort of make it look even. I re-specify... whatever was there. So that would be a medium-beam to sort of try and get the same effect so that the table is lit but the floor is not. You need to have a task lighting for this because you're doing things... it's physically dangerous with knives and you can't put it under the cabinet because there isn't one and this is the window... isn't it?

Jeff is asking details about the counter while looking for a way to incorporate light.

-I think its interesting having this kind of thing because it's a fantastic tool and it's so well done is how reliant you become on looking at a visual and not looking at a plan to think how a space works. People do visuals and bearing in mind that people who do visuals tend not to be lighting designers or even interior designers but someone who you get employed to create a visual from a plan there's a real temptation to kind of look at that and think well that window meets the counter and I can't put anything on that level but actually it probably hasn't been detailed to that effect yet. If you ask for it you might get it. But since I don't really want to move your windows around lets just put in some downlighters. To only to be used when people are using very sharp knives!

Joking

-That could probably be very narrow as well. With an island like this you could float that but... I mean... It's quite... if people are sitting outside it'll be like people putting lighting under this table. Do you want to light people's feet? It's not very flattering. If you're thinking about 'how can I make this space intimate in the evening'...? And the only way to do that is to put more candles in the evening. Because it's going to be quite a down lit harsh space.

12:24

Wraps up the kitchen lighting and moves on to the middle part of the corridor that looks quite dark without any particular treatment. Examines the height of the landing over the corridor.

-I think I either like the lighting to be a feature as in a floor lamp, or kind of concealed. I'm less into a lot of visible fittings for the sake of them. Like a surface-mounted bulkhead under there. I don't think that would be very good. So moving upstairs...

Checks the lighting in the void, workspace and stair turns down the possibility of hanging a pendant there. For the landing on top of the stair he adds a floor lamp and the moves in into the bedroom area where he says is not sure how the space is so he is once again being referred to the visual.

-So you are coming through here and there's no view obviously to the bathroom or anything.

-No.

-Ok I would have something like one floor lamp there, one floor lamps there. I would probably put a desk lamp or a smaller lamp if you had any furniture... you know if had a dressing table with a mirror or something like that so lets assume there's something there. That or a wall light probably there. So you're coming in and you'll probably look into the mirror – you see the way I'm making assumptions about how this is been designed already. I've got no right to... so that or wall light. Or two table lamps there. One there or there, something by the bed. Let's assume that there is a table lamp there. Whatever they are. And then, because I don't like lighting in bedrooms, something in the wardrobe that would be a linear strip.

-On top of the wardrobe or inside the...?

-Inside the wardrobe, micro-switched so they only come on when you open the doors. So it's just a kind of typical hotel solution. And that would be it for the bedroom.

16:13

-And in the bathroom... you haven't got another bathroom?

-No.

Jeff is here making comments about having a party and needing to use the bathroom.

-I'm not kind of keen on a lot of lighting in the bathroom either.

-Candles?

-I would have candles in the bathroom and nothing else. But that's because I don't like the fitting that I've got in the bathroom so maybe I could do better than that. Let's put a downlight over the basin just because... it's in a little niche isn't it? Like a little round niche...? Let's put a pendant over

the basin because there's not enough decorative lighting in this house... Like a little thing like this. Like a very thin narrow down pendant so it lights up the niche. So that'll do all of that area. The mirror's in the back side of the toilet wall?

-Yes. It's here.

-Well since I've done this in a job recently let me... it's very self-indulgent but let me... I'd quite like to fix something on to the mirror and drill through the mirror. Let's have a couple of wall light on to the mirror because that is quite flattering to the face. It's a very traditional way of designing. You could recess a slot into the mirror I suppose but... I suppose you need something for the toilet. It was a low shelf there wasn't it? So that's as the library. This is the full scheme but this will be cut down...

-Sorry I missed that one... what was it?

-That's the same detail as the library. I wouldn't really want any other lighting in there to be honest. You've got a skylight over the bath, you can put candles in the bath if you're reading or whatever in the evening... I think this is that. For me that's four lights in a bathroom, it's three more than I've got at home... or would have... So let's assume that's all I'm going to do there. You could do a lot of funky things with this curved wall but I think it'll get a bit much really.

Asks if he has to do the externals. The interviewer mentions that is up to him if he thinks it's necessary. Jeff goes for lighting the underpass because it's going to be a 'dark corridor' otherwise as he says and goes on to solve this.

-It is important what these materials are? Or can I decide that?

-No you can decide that.

-Let's assume that the internal wall is something that... interesting say repeat the troffer thing at high level and low level on that wall. So maybe it's something like concrete or something. Something that if you lit it from close offset would have an interesting effect. So that one is more likely to be something like (sketching). That's looking this way. Something more likely to be against the wall and a recessed fitting. Because it's more difficult to build this kind of thing on each side. So that's doing that... and that's doing that. And this wall has some texture to it.

-Are you doing it both top and bottom?

-Top and bottom.

-In both areas that you put linear light, you put top and bottom. Why is that?

-Because the light never goes as far as you think it will and it's always very disappointing.

But since there's no budget... I think also I don't know...

-So you'd rather see the whole surface luminous and not just the grading effect then?

21:15

-Well, that'll go about 800mm there and that'll go about 800mm and there'll be a little bit in the middle. So there will be grazing. It's not going to light itself out because this is not going to go far enough. But also think that if you're doing something like this where you haven't been given a budget there will be a tendency to put in too much. Two of them, knowing if you cut one of them, you still have something, rather than put one of them and then cut it and have nothing. Which obviously is not our company policy and it's not how we work. You know, we try to get it right the first time.

With the trees, I really think uplighting a tree in a domestic thing is not right. But also (lighting) some trees work better than others. However if you're going to have parties there, then you might have something really camp in the trees... you know... fairy lights or something... it's quite nice. You probably wouldn't need it here because that's more... but in this area (middle yard) it could be quite nice to have something... I think it would look great... sort of Champs Elysées style. You know the kind of thing I mean. Something to look out on. If you are having a party you're probably going

to be using that area. If you're going to use this area... (Copies it in front yard as well). I've also got these niches haven't I? I won't do the portals. I think less is more and that if you're going to have a party outside in the dark then the chances are... it's probably going to be an intimate gathering and you might not want an awful lot of light. Maybe it's my social life but (I think) its going to be more intimate here.

Just for you, I will put in something there (corridor end) more for safety because this is going to get quite... you know to get out to here... getting out from there... There is no high level there is it? So it has to be at low level. Low only. So that people don't walk on to the walls. Ok? This is the most over-designed thing I've ever done!

Closing discussion and thanking Jeff.

-I haven't used any of your sections sorry... to find that quite a lot of that is impossible!

-Well if you've got a good idea of how it is on the visual then...

-Well the visual is really good. You have to come round and see my bare light bulbs that's in my rooms... to give you an idea of...

-How many candles...?

Turn off.

PART ONE.

00:00

Briefing takes place

14:59

-That will be my daylight analysis. You definitely want this side being south and west. I reckon south should fall about here. Let's put that on! My daylight design! Yeah south should be there and the rest slightly cut in for the summer. So that you get some sunshine.

Laughing. Picking up pencils. Rearranging drawings.

16:38

-Is this shared with anyone apart from the people who own the flat?

-No. It's all private and you can imagine that the land around is private [as well].

Jennifer says she is going to use red pen and makes jokes. Asks about the entrance line in section and plan of the ground floor.

-It'll all be about having the right control system. But I suppose we're not talking about that. All the scene-setting things.

-Lots of people design with scenes so if you want to put... you can say 'I imagine this to work in...' and since it's recorded...

-Yes exactly because some of this wouldn't even show up. I wouldn't have done this like this in theatre days.

-So is this uplight or downlight?

-I would say they are in the floor. And they are uplights just picking up the details of these and I go every other so that it's not just over go. It could colour-change if you really want... It depends on this person really. They might prefer 'clean' person... sort of visually, so it might be that everything is just shades of white, or we get crazy and do ridiculous kind of things. I think it will completely depend... I think [since] it's in the middle of the countryside, I might go white. I might pretend to be white sort of clean visual person. To quit colour-change I'd say...

-When you say 'clean visual person'?

-So like... not saturated colours everywhere, so I would imagine the finishes would all be like either on one type of colour like blacks and whites and greys or shades of blue. Something that was sort of continuous through the house. Rather than one room being bright red and one room being... I imagine this house, because it's in the countryside I'd try let the countryside do the work. So in terms of finishes in the house I am going to assume... because you haven't told me what they are...

Wonders on the protocol of the study if she has to decide on the finishes of the house or not. The interviewer gives some information on the basic materials, concrete and glass. Jennifer gives her preference for a 'narrow pallet of colour' and justifies that based on the location (countryside). She would then vary slightly the tones in each room.

20:48

-I'd say that the lighting should be all shades of white. So, with that in mind, I'll go cold white with this because it's outside and we're imitating the daylight and then when we go inside we can do it in a warm... inground uplights. Do we need all of them? Lets go crazy and have all of them and then we'll switch them since money doesn't matter.

Laughing. On the protocol again she is deterred from labelling the circuits or fittings. She decide to describe the characteristics of fittings by annotating the names in a black paper.

-...to kind of divide those spaces I guess will make it interesting.

-You are dividing left from right?

-Yeah... I think I am. 'Cause it kind of makes a boundary even when this is actually space you got to be using. Now, workspace. Is this a workbench?

-No this is just the dimension. I didn't put any furniture [in]. Be free about it. There's only the two steps and the staircase. And the guy there is for the human-scale proportion.

-Ok and its double-height?

-Yes its five metres.

-Ok. No roof on top? A solid roof?

-There's a flat roof on top yes. Everything is flat.

23:29

-It's tempting to wash the wall I think. Let's wash the wall.

-Up or down?

-People work in there... probably down. Let's wash the wall down. Linear... curved. We don't worry about what source it is 'cause that's...

-No. I guess it's going to be a linear source... either cold cathode or overlapping battens.

-Yeah well or those little xenon things. Xenon capsules or something like that. So that there are nice and warm. Dimmable. They are quite nice also because they are a bit colder colour temperature when they are not on full, so if you want a bit of brightness to match the... I think what I'm trying to do is match this window plane and just kind of bring that feeling into the room. And task light... I would just leave task light to be local to where that furniture is.

Now... stairs. I've always wanted to make a linear blade of light in the middle of a staircase. Just a vertical big tube. However wide your tube needs to be... that's lit. I'm doing that here because it's ... [incomprehensible].

Explains that the idea of a 'blade of light' comes from a project that never happened.

25:39

...And I suppose, depending on how we had to detail it, it would be lots of things (sources) and then another. So that would be your structural and then we would make a light box, or somebody very clever could make something that incorporated the light. But I'm not a product designer so I am not going to design that. But that would be my suggestion as to have a whole column. A column of light. It should be dimmable. I think everything should be switched separately. It's all about switching and controls and scenes. Right... the steps.

Asks for a section of the steps. Some explanation is given about the materials.

-It might be quite quirky to take the handrail and to go up so you've got something central being lit. And it would be sort of hidden little detail in here. Solid... light source.

Draws a sketch of the handrail detail. Adds a name for the lighting on plan. 'F'.

-We just need to make sure that these are warm white; if they were fluorescents. Whatever source it was, cold cathode or whatever would be. I think that should all feel quite warm. But this wall (curved) if it's up at full can be... just a tiny bit. I think they are about 4000°K. And they could about 3000°K. Little lighting detail (on handrail) it could change colour but probably not. Cold LED.

-So task lighting [will be] local wherever [there is] furniture, windows are all fine. This is a little step?

29:01

-Two steps up.

-I think I'd leave those. It's fussy. Right... the corridor. I suppose you've got to have something on the corridor. So I need this to be interesting when you come in and you need to go: 'wow. Look at that staircase'. I suppose I need to have something just for practicality's sake. Is this [a] three-metre roof there, isn't it? Maybe what I'll do is put a couple of downlights by the door... Jays. So you can see your way in. And I should do this on that side too. All right then. I might come back and put more light in but I'll leave that for now.

She moves to the kitchen. Asks for a view of the 3d model. Asks for the position of the sink. Asks of the dimensions of the window by the sink, the ceiling above the kitchen. She is pointed to the sections. Locates the extractor above the kitchen.

-Well my battle is whether to do like a regular array which you can dim, which is the easy approach, or whether to try to do something which does this as one zone, and then the workspace as another. And having just said that, I think it is. It's a workspace thing. Would it be the plan that they would eat here or here?

-They'd probably eat in the kitchen, yeah.

-Ok, and you've got these niches as well. And they've got curved... could you do a little invisible detail...?

-What are you proposing?

-In the niches in the kitchen... so that you could hide a linear source in here, in plan that sort of illuminated in to the cabinet itself? So I'd say we do that for those internal kitchen niches

Writes it down in the list of effects together with a description.

-So we'll do that there and I think we might need an array of boring downlights over the surface 'cause we've got these here. I suppose we could wash but it could spoil the effect of there. So I think I might just do some nice narrow-beam sort of every couple of meters along there and then definitely one in the corner... either side...either side. Something like that going all the way along. I think that those should be switched separately. So they'll be narrow downlights and maybe they just cut-off the cabinets, the niches. I don't want that spoiled. And they'd be switched separately to those

Jokes about her scribbling.

35:44

-Maybe they could be slightly wider. So they might spread some light...

-So you're cutting through the beam...

-Yes, I'm cutting those off. I don't want the light to go into those. So all that's sort of narrow. But then I think these, can kind of spread out... a little bit into the space. Which might be useful. I've no idea where these people are going to put their food... It's not particularly useful like that. Slightly wider wash into the space. In which case they should probably be mounted there so that they don't make a big shadow. So if they're there they won't make a shadow on the floor that way. So they should be mounted just exactly on that line.

Ok. Now we want to do something a little bit intimate around this table. Is this floating free, isn't it? So it's just that.

-Yes. Suspended from the ceiling.

-Are we allowed to do anything from it?

-Yes. You can even alter the structure if you want. It's at concept level.

-Well I will probably put something coming off it straight down on to the table.

PART TWO.

-So what are you doing, are you uplighting the trees?

-Yes, what you missed is that I wrote: 'the switching must be separate for everything and it's all about scene-set on an easy-to-use panel when you come into the house. So you've got probably panels... We have a panel when we come in here so we can switch everything we need on. We might have a panel in the kitchen to just cooking and then eating. Is that a boundary of a wall?

-No it's just the steps.

-It's just the little steps. It's a raised area...

-It's recessed.

-It's probably there then and that would do kitchen... sorry that would do living sitting and library. And one on the bedroom definitely. And that would be probably... that's no window is it?

-No that's a translucent wall.

Positions the last control panel from the bedroom area by the wardrobe wall. Makes a green mark from the control panels. Defines the overrides of the panels verbally.

-Ok. We've lit some trees out there... The big trees should sort of be the same. Same sort of wattage.

Writes down the note for the trees lighting. Jennifer has added a sketch for the hanging spotlights lighting the kitchen island. Specifies with a better description the trees lighting and she adds that they can be colour-changing. Moves on to living and sitting areas but before she asks about the varying ceiling heights.

03:39

You don't want to spoil your night-time or your day time view. I'll use yellow 'cause architects always use yellow for daylight. You noticed? I tease them about it. 'Clear view'; that's the important thing; day and night.

-What does it mean?

-Well it means I don't want to look up in the night sky and if the moon happens to pass over I don't want to look up at the night sky and get blinded by something. So for this little area I take this as the most important thing to remember. I don't want to mess that up. I don't want to mess up my view. So maybe... would you read in there or would you read in the library?

-Or in the workspace?

-Or in the workspace? You'll just be lying there.

Asks for a helpful section to get a better idea of the space.

-So I would say, if it's all about the roof, it's got to be all about the floor as well. So I'd probably put something underneath the couch to make the floor glow. So that you could enjoy the night sky if you wanted. Then you could safely come in and just look at the sky. So 'floor glow with a linear source running along the edge of the couch'. In plan that sort of will be all around. I'm just thinking there should something local and nice so if you wanted to do something useful like read or look at something then you could. I suppose the only choice that there is there is wall-mounted. It's wall-mounted and if it's behind you, it won't bother the whole sky thing. I'd probably put some little something. Again I'm going overkill because we can always cut things. Just like little LEDs highlight

down on to the couches. I suppose it could be linear. I'm gonna make the whole linear thing actually.

Jennifer adds the detail in sections and works out the height and the angle to the rooflight so that it doesn't hinder the view as she initially pointed out.

-Very small though. It's sort of tempting to cut a hole in the wall. I'll put it here so that it's quite visually discreet. But maybe the light source it's sort of almost hidden up there. So you can't see it from over here. Yeah let's do that.

She writes down: Linear, wall cove detail, should definitely be dimmable. It shouldn't obstruct the view upwards. She adds that the source could even be a small fluorescent T2 source as long as the whole detail remains small in size.

08:56

-It's almost like when you're sitting in the couch, if you are really clever about designing it, you might not be able to see the source. You might only see the effect.

Jennifer moves on to the library. Asks to have another look at the 3d model.

-So I'm afraid it's the old downlights again. In here.

She writes down group name for the downlights and requests the relevant section. Continues: 'downlights dimmable, bright if you want'.

-Or you might want to read a book intimately. I don't know how you'd do it but there might need to be some really clever switching systems so that you could actually switch one of those if you wanted to but you could have all of them on if you wanted.

-With a DALI I guess which is very expensive for a house, but they don't care.

-Exactly and these bookshelves, they should definitely have something. It's sort of tempting to make them a whole big... [I'm] looking for a section of that way looking... is this one with the shelves on?

-Hem yes... there they are.

-Well, it's always funny with backlit shelves if you put light on the back... because it just seems to make the books or whatever is on the shelf look dark... I never understand that in shops... so with that in mind I will probably go on the sides. And on our plan...

Asks clarifications on the division lines of the shelves.

-Ok so I would make that ends a light box. Whether or not we made this a light box I'm not sure. But definitely that's sort of how...

Jennifer writes down that effect of light box side lit too and repeats why she wouldn't back-light them. She then moves on to the steps out of the reading space.

-So now I can see my books and I can see to read. I've got some steps here and I think 'cause I know this might be quite dark, and it might have been quite bright when you were reading, I'll probably do some little inground step thing. Just for safety.

-In the nosing of the step?

-Just a little nose yeah.

She adds that to the notes and moves on to the external area of the workspace.

13:33

-Is this a little wall?

-It's a ledge: 30-40cm high. You can open up (the glass doors) and go out, if it's summer or spring.

-I might wash that wall from inground.

-Why is this one?

-Depending on where I'm working in here, at night time, or you know in the spring or in a dusty evening I could like that wall... because I've got a window and then that wall, and there's something between the window being lit and I just... So I'm gonna go: 'inground linear uplight to wall'. And I'd say it's probably like daylight sets. I wouldn't want any wall light stuck on here, any scone things. I'm not into those at all. But I might do a little detail again on my wall. Just to kick some light down. So you could just have that if you wanted a nice unobstructed view. 'Linear source... to the floor'.

I think the trees... that's tricky isn't it? Would you ever eat out on any of these areas?

-(Nodding).

-You might? Maybe I should. I don't really want to wash that wall. I might wash these ones. I knew one of my lines will clash! I knew it! I suppose if money doesn't matter I'd carry on these niches outside. If I was having dinner here it might be quite nice... put candles in... whatever... And they are 'H' aren't they?

Annotates that.

-I find this area tricky outside. Because it will be scary I think at night. To wonder what was under there. So if it was me I might put something... I don't know I suppose it could be exciting but I'd put something quite sort of 'municipal' and functional and no 'messaging around' with the levels. So if there was someone under there they really wouldn't want to stay. That slightly worries me that area. (Annotates) Yeah that really 'municipal', that horrible bright thing.

Now we need to do this with these, wouldn't we? To separate these out. Have I picked...? Lets do all of them. Again, just making a little: 'don't come in here'. So we get a 'quite nice' and then 'don't come in here' look. But if we did want to come in here we should probably wash all these walls as well. (Annotates them too).

Doors, portals... are they arched?

-No. Just...

-Just a square? Oh go on... spoil us! There we go.

Makes informal jokes and comments about the project while marking up the uplights.

19:27

-Ok so that's probably ground floor. [There is] probably quite a lot of money there. Right. So wardrobe. You need something in the wardrobe if you're gonna be fancy. (Annotates) So wardrobe rail. So full height mirror. Is there a roof above my toilet?

-Yes.

-So I'll have one in the middle of the plan. And one there. And they'll be 'XYs'. Quite wide downlights. (Annotates) To cover the mirrors as well. Oh you've got the balustrade as well, haven't I? That has to have a little handrail detail in it, I think. If we've done a handrail up there then we'll carry on with a handrail... that's probably quite similar to my 'F'. Ok, so it's the same feel as you come up across. Those should be there but they'll be switched separately to... the bath.

-Oh there is a roof light there.

-Oh! Is there? Oh Great ok. I suppose I should put them on the wall then. I mean

-Wall lights then?

-Yeah I guess. (Annotates) I will have to go wall lights but they should definitely be dimmable. Architects always talk about light as if it can bend [around] a corner or do magic things I noticed! And so things light want to be here so you could shave your legs but when you look up, you can't see the light! It's one of those!

Laughing

We can make the bath float as well.

-Maybe they are trying to say 'cove' but they don't know what to call it.

-Yeah. Maybe. That's a sort of a copy of the sofa downstairs. The floating detail (Annotates). Cupboards. Are they like a whole block of cupboards or are they built-in?

-I've allowed a quite thick wall for them.

-Yeah. Let's just do the same as we did to the bookshelves 'cause that's the same sort of theory: make things been silhouetted. (Annotates as 'Q' same as the light boxes in the library). Bed. Bed's got a sort of backboard hasn't it? And shelves behind. The shelves should have the same kind of treatment: 'Qs'. The bed can float as well since other things are floating. So we're sort of copying the 'AA' in the bath and the whole thing sort of floating. And then I suppose we might want some useful light for doing useful things. Now I might do that directly above the bed or from the sides.

Laughing on the motorbike noise in the background.

23:45

-So those might be 'BBs'. (Annotates) Bedroom reading little spots that's user-changeable. If that makes sense. So [that] I can adjust it like there with that if I want to or... Is there a mirror anywhere [in the bedroom]?

-No. Only the big glass doors.

-The entry hall I don't think. Well you'll want to use that panel. Have I got a roof above here?

-Yeah.

-Or maybe I'll do just little downlights and they'll come wash that wall and they can be the same as 'Ys'.

Closing down the interview.

PART ONE

0:00

Briefing takes place.

11:00

Briefing stops. John takes over.

Asks clarifications regarding, a. the site, b. the intention of the owner for stand out feature of the house, c. the client profiles habits and interests.

-Are they art collectors, or car enthusiasts, or film freaks...? if there is any kind of interest there that with my lighting design I could tap into, I would be asking those sort of questions. Let's say there this sort of (reaction): Oh yeah, yeah, my husband is a huge film freak, then I could say ok let's do a cinematic lighting concept. We may create little suggestions for his favourite films and the concept is built from those sorts of elements.

For me in a private home like this, or even in a hospitality environment... it could be relevant to this as well. I'm not necessarily always just responding to the architecture because there is so much more there. Recently I worked on a project, practically the only residential project taken on, and the guy was art collector. The whole lighting concept was all about the art. And the flexibility that he feels comfortable with. The kind of light he feels like... the way he likes it. I would start conceptually from those sort of directions.

14:00

Interviewer gives details of the users, the type of residential use, namely a weekend retreat. John asks about ages and financial situation to get a rough idea about the budget.

15:15

-Ok, now architecturally the one thing that I paid attention to almost immediately was the sort of transparency of the design, to some extent. There is quite a lot of views, these vistas, views out, fair amount of skylights... things like these. So I would be interested to explore what we could do with the landscape to extend those views out. From inside when the sun goes down. Of course all the glazing in this environment is particularly good. It's going to effectively turn to a black mirror if we don't have any light behind. So I would see what we can do with the landscape. Pick up a few elements there. Without going too strong with it.

Give that it is a rural area and I don't believe we need to start lighting these as if it was some kind of a hotel resort or something. Because it's private you can go much lower intensity. People know where the steps are, they don't get lost. They don't feel they are in danger if they are in a garden that's a bit darker, compared to, say a hospitality environment when somebody is there in the first time in their life and going to stay for three days.

So I would see this environment being quite dark. With sort of key elements picked up. A few accents and focal points outside so that we extend those views out and allow the eye to travel from inside to outside. I am not worried about the external façade lighting as such because with all the sustainability and energy uses and all the rest of it I don't necessarily see a need for it. Unless it was designed for example in a way that there is a very selective façade lighting scheme, it's on a separate scene setting and they do have special guests coming in for dinner or something like that... They press the button and it comes on and it's used only for that sort of occasions. So that could be an interesting approach to it. Otherwise there is enough glazing and openings to allow the building to glow internally. And that's a big part of the exterior lighting.

Now, again architecturally, in your design there is a lot of opportunities for accent lighting. But before I would go to that kind of conversation I would probably be looking at what is the mood that we try to achieve. I would not suggest to light these spaces in a way that is not flexible i.e. the mood is fixed. So I would probably approach all of those spaces in a sort of layout fashion. With light you can create different kind of ambient and different kind of mood. I think that's quite a typical expectation nowadays. If you have a contemporary house like this the owner probably has quite good control systems in his second home already, so he would be expecting this!

19:03

-So I would certainly be recommending staff like that. Questions are do these people like warm and moody environment or are they more into bright and airy...? Are they interested in creating drama with light and this 'cinematic' feel? I would be asking all those questions.

-Yes I haven't been into the detail of imagining personas. We can assume you do what you like...

-Give myself my own brief! You see why I'm asking this. I always feel that the best design always comes from poking questions.

-User oriented questions.

-Yeah, because when you do that the people tell you what your design is. They don't know they are telling you that. You tell it back to them, but it really is their design. The reason I'm making a big point out of that here is because you've chosen a residential building. If this was one of the villas in the five star resort then I would be less interested on those facts.

-If it was your house?

-If it was my house? Well... I'd move the staircase!

(Laughing)

I'd tell you exactly what I would be doing. Quite subtle lighting scheme, without too much frills. I would certainly not start decorating the interior with light.

-When you say decorating the interior with light, example?

-Example; all the typical things you see at the moment everywhere which I dislike heavily: little marker LED lights in your kitchen units and having little uplight here and there doing nothing. Using technology in a kind of brash and obvious way. Kind of 'show off' style. I feel that those kind of approaches, concepts are very much experienced for a short period of time and then left. It's retail and hotels and this sort of environments. You don't go and live there. I think all of these free accents would start irritating me after about two months.

-Why is that? Do you think there is an overflow of information or...?

-Probably because they are too much in your face! I think it's very difficult to... because light is so strong... by default when you start seeing light sources... in this case some kind of decorative marker lights... they are very often the brightest thing in your field of vision. They demand attention. Every time they are on, every time you walk in, they will demand attention. They will do that if they know you're there. Because... I don't know... we're drawn to light, aren't we? Your eye checks them out. So I would make a very soft, very calm lighting scheme for myself. It would be very flexible in terms of the scene setting. It would all about constant tweaking. I would probably change my lighting every two weeks. I don't mean I would change my lighting system, but I would reprogram it, I would make it a bit warmer, I would make it more selective. So for example to help you out with this man...

-Do you want a pencil or a pen?

-You got a red pen?

23:31

Getting pencils and preparing to start.

So little things like... I'd try to build the lighting to the fabric of the building, but I would layer it so... different elements have...

-When you say layering you mean the control system?

-Exactly. Say I'm lighting in here my little bookshelves. Classic detail, nothing new there, but just nice little warm glow there.

After prompted by the interviewer he sketches a usual detail of shelf lighting. He says he likes warm tones for the specific environment which he ascribes to personal subjective preference. He then starts a short discussion about his background which is theatre and film and photography lighting. Involved in 19 to 20 short films, including professional ones.

-You can't create the drama and the atmosphere you see in films, in architectural permanent lighting. You just cannot do it. It's false idea. Because you don't live with a framed (view). Extremely controlled vision. But I do take those cues. So what I mean by that is that there is... the warmth comes from that. For me interior is warm because of that. So I try to tell little subliminal stories with that. Cold light is something that belongs to outside. If you try to

27:00

suggest that light from outside is coming in, then I would make that cold. And I use a lot of colour conversion filters in practically every project I do. (Filter names) You know 3000 Kelvin halogen light for example, feels awfully cold in a very intimate setting. For us all probably candle light feels perfectly natural, day also feels like white light in that sort of setting. Candle light is what, 1000 Kelvin or something? I don't remember.

-Me neither.

Repeats about the colour temperature feel between halogen and candle light. Warm lighting is what he chooses for that space and defends. Free standing luminaires with sculptural qualities as a 'focal point'. About the positions of the luminaires he thinks that the furniture is restrictive and predetermines that and is a bit reluctant in overloading spaces decoratively. Proposes a backlit barrisol over the reading space.

30:48

-For the record I would not start accenting things like the bridge.

-Why not?

-Because I find it commercial. I think that would just be a little bridge there.

-Commercial when you say it's just too much... it belongs to the previous thing you said. That it doesn't have a point. It catches the eye and becomes tiring?

-Yeah I think so. If you make too much of a point of it everyday of my life, it's not interesting.

Proposes instead two little uplights on the bridge floor instead to create a cinematic experience of movement.

-One little architectural element that you created and it's lovely is of course these fins. Very Alvar Aalto... very Finish.

-Is it?

-To my mind. It somehow reminds me... and of course that's a great opportunity for lighting in a simple way. Uplighting or downlighting between fins. You immediately begin to create this strong view from here (entrance point). What I would do with this (corridor), and this is something that would not tie me because I could change it, is that say that I'm actually downlighting them rather than uplighting. I'm not uplighting because I don't want to see the light fittings every day of my life. So I would create some kind of pocket detail...

-Pocket detail?

-Yeah well I don't know what it would be like... if these are your fins, I would recess, that's your ceiling level, I would recess light into a pocket, push it up so that it's well off the ceiling and even if I'm quite close to it I would still have to crack my neck in order to see the light source. That would be coming down. These I would actually specify as additive colour mixing fixtures. What I use there, I wouldn't use RGB LED because with that you can't actually create nice warm white. So I would use RGB with amber and warm white. So I would create that sort of luminaire and I would

control every single one of them separately with DMX or any others similarly clever and with that I would then create compositions. And I would create waves with maybe starting with cooler white here that gradually goes warmer here. And then next weekend because I feel like it I would make it pink and blue yellow and if my kids are having parties I would make something else. Or if Spain wins a world cup I'll make it Spain's colours because I can. So I would have fun with it. I don't think I would get tired with that. And because it's so nicely part of the architecture, I think it's a nice cue... I would probably just leave it there. That would be the bit where (incomprehensible).

34:35

Kitchen to me has two functions. Number one: the cooking side of things. And number two: party. Just like a bar. Everybody knows the fact that the kitchen is where the party really is. This is a house that I would definitely use to entertain, so part of my layering of light would be then to create the kind of settings for the kitchen that allows it to go very atmospheric and moody. How I would do it? I don't know it could be a very simple thing. I am a bit tired of all these glowing units under the floor detail. Again because it looks so commercial and (because it) lights up the fact that you haven't washed the floor for a while. So it doesn't interest me, but I think what I could here...

-So you think it's part of a trend then, it's pointless?

-It's not pointless in terms of commercial spaces. But yes, it is part of a trend. It's almost like a standard detail now. In every hotel or bar project... it's now trickling in to residential, high end residential work. You begin to see it everywhere. It doesn't mean anything to me. It is the sort of light that demands to be looked at and I've never quite realized, in this sort of context, what the benefit of drawing attention to the meeting point of a kitchen counter and a floor is. Ok, it makes it float, but a nice shadow-gap detail is much more interesting to me.

-A what?

-Like a shadow-gap detail you get everywhere. So I would go that way. I would try to do something here but maybe a very selective downlighting...

PART TWO.

Continues the lighting solution for the kitchen and details a concealed slot with spots for directional and fluorescent sources with a diffuser for ambient additional light. He draws the slot a square following the kitchen contour and mentions that this technique comes from retail lighting. The sculptural feature of the extractor would be side lighted with these spots. LEDs additional to the above for party mood making. Colours: pink, ambers etc. About controls he states that they are going to be controlled separately, positioned in a three circuit track. For party the kitchen light will be complemented with candles positioned in contemporary style candle holders. This idea could extend to the whole house.

The discussion then moves to the dining area which John wishes to imagine as being in the entrance seating area, and consequently the skylight. He sees the skylight as problematic in night time as it will appear as a black mirror. Proposes hanging a fixture with candles from the corners of the skylight structure. He dislikes detailing light into the skylight as it is reminiscent of a retail environment. He concludes that the preferable effect will be using the glazing as a mirror and doubling the image of the contemporary chandelier. Adds some floor standing lamps and thinks about wall mounted fittings not so much 'decorative' more of a slot recessed into the wall. He makes sketch of wall elevation and then in section.

06:59

-Now, at this point I would start reviewing: do I actually have enough layers to blend it? Can I actually do all those things that I was saying? Different moods, different feels? O if that's my dynamic white (barrisol ceiling), that's a big one. Shelves, day lights up and I'd probably switch the lights off... They are quite often a bit boring... Where is my fireplace exactly?

-(Shows in 3D) This is the fireplace...

-Oh it's like on of those...

-Yes, it's see-through actually.

-Yeah, very good.

-And it goes up to the bedroom.

-Ok, so you will be grilling your sausage, there? Very good.

(...joking). He adds some 'integral lighting' to cupboards that will come on with micro-switches.

-Just sort of functional, practical lighting to actually see to the back of it. Of course my cooking hood is going to have loads of light. That's probably it. Going upstairs with the nice little spiral staircase... Something like this I would be in two minds if I wanted to start accenting heavily. Because of the same reasons. Having said that it'll probably need to be lit a little bit. Maybe I would come up with some integrated detail there.

-In the balustrade?

-Maybe it's the balustrade or some of the supporting structure. I wouldn't underlight the steps or the nosings or anything like that. That looks ugly... and I would make it too heavy but maybe a tiny little detail. Because this is my house, I know where the steps are. I could walk them up and down with my eyes closed. So I don't need to light... Ok the guests when they do come and they realise that the only toilet is upstairs in my bedroom... who was the architect?

(Laughing)

... They would need to kind of feel safe about that. So I'd create a tiny little detail using some exciting little LED fitting. Just catching the edges maybe... (mumbling). I wouldn't make a great deal out of it. Do I have a big wall here behind it?

-Yes it's (demonstrating in 3D).

-So the curved wall is it...? And it's entirely internal wall, is it?

-Internal, yes.

-Is there a skylight above it?

-No, it's just a flat ceiling. It just has this big glazing...

-Oh you got side-light there.

11:10

-Yeah and it's full-height. And you can imagine that it's open able so you can come out in the summer and extend your workspace, if you want to.

-Mmm... workspace. Is it like a workspace? Ok there is of course a great opportunity here for a little theatre trick. Because you have this sculpture in the foreground. Although I said I wouldn't necessarily do something too heavy with it... But having said that now, that we have this curved, sweeping, tall wall behind it... You have the foreground and you have the background, you can treat this (staircase) as if it was a (unknown) from a theatre and then it becomes part of this whole entrance experience. I would probably do it for the guests. Maybe even for myself so I would make it again quite flexible. What I would do is I would create two details, one on the top and one on the base, I would uplight this wall and downlight it. And I would do it both linear with a concealed detail... classic (sketches cove detail).

-Linear following the... at close offsets?

-Following the curve, yeah. Not too close though because when it is too close it becomes a hot line of light and your eyes are then drawn to that line rather than the surface you're trying to light. So, I would make it chunkier, I would probably make it like 400mm or 500mm. So it almost feels like it would be (if it was) even a skylight. I don't know quite how I would terminate it. So I'd do some like this. And then I would mimic it to the floor. I would try to make it very soft. So again the surface brightness of the whole detail is not that great. Maybe on the floor I'd do it with clear glass.

So that it's quite literally the return detail for the floor as well. I would make it clear glass so that we don't have surface brightness here. And then, the light is hidden among those lines. Should you want to stand here and you will see the light but I accept that in my own house, because that creates a very nice wall wash. If I hide it here then it begins to get a bit too softly done. And I would probably introduce again colour elements to this and the reason for that is that I do like colour in light. When I say colour, I mean tint. It is very seldom that I actually enjoy saturated colour of any hue, any tone. Of course it can be used in an absolutely amazing way. But then again it has a very tiring quality...

14:09

-Interviewer asks about the intentions to mix lights and hues up to compositions. John envisages this in a theatrical way and explains the case in theatre with the coexistence in a scheme of several tints added together. He asserts when prompted that this enhances the three dimensionality. 'That's how you create depth'. He explains the cycle-lighting effect from theatre techniques as used in the curved wall/staircase combination of surfaces.

In this case you have an actor here, which is this staircase, so you (chose) subtle colours maybe from the low end of the spectrum: lower, warmer end of spectrum so it is going more towards amber zone... maybe orangey zone... even reds and maybe here we have something cooler but it doesn't have to be that... For example this also can be amber and reds but cooler lighter tones or you can have blue...

-So the tints then help for the three dimensionality or...?

-Entirely. That's how you create depth. I know I could create a very striking space out of this just by using things very simple things like that and leave it quite empty. Just this composition of the curved wall and the spiral staircase and make a composition with light. The reason I am lighting it both up and down is that I'm doing the age old 'cycle lighting' from theatre. So this is my wall then this sort of wash (is) coming down here and another one meeting it. If I make both those colours...

-So it's like... it this is on the stage, where you light from the sides?

-Not from the sides. From top and... That's what they do. And then you know anything from lighting imitating sunsets, or any other sky condition is to be honest done like this. Allowing one colour to bleed into another.

Expresses some doubts on the lighting scheme being too funky and beyond initial intentions but dismisses it due to the brief and the user being himself. In the case of an old couple the scheme would be less complicated and less dynamic.

17:54

-We talk here about practicalities... so...

-Yeah but I do care about I do care about practicalities a lot in my design. I am basically justifying the use of this kind of technology and this kind of flexible controls with the fact that it's me using it and that I know how to use it and I'll have great fun in messing around with that sort of thing. Ok that's interesting, that little corridor leading this way. And then we have little external zones. All these little built-in planters and tress, they are quite obvious opportunities for a bit of accent lighting. So that we can create what I was talking about earlier on, about allowing your eye to travel through the window.

Lighting the tree. John proposes another colour changing scheme for the tree. Refers to projects where the lights were adjusted to turn pink when the trees blossomed.

20:30

-Again that's a theatrical concept...

-Yes. I love that kind of stuff. So I would do something like that here. So I would have fun with these elements. I take it quite seriously when it comes to lighting. I believe that these little things so actually help you to engage with what you have. And the fact that the tree is doing all those things and then is doing something at night time, to me is exciting.

-You mean you like more playful things in the lighting of a house, or more theatrical or more sensitive...?

-Yeah because then things are changing. Everything is alive. Your lighting is alive. Why does it have to be fixed and always the same? Your life isn't. Anything that's natural like plants or daylight, they change. You change. Your taste changes. So in some ways... why not respond to those things with lighting? The technology is there we can do it. It's not difficult. As you can see I do not approach lighting through numbers at all. For this project, my house I know exactly what I'm doing here. I don't need to do any calculations. I don't need to calculate anything here. I know I have enough light to cook and to read... It's a feel which again I don't think is particularly difficult to... generate that feel... that sort of knowledge. Loads of people have it. Lots of architects have it, lots of interior architects have it. You don't need to be a lighting professional to have it.

A discussion begins on the lack of intuition for lighting appearance on behalf of some architects and interior designers. John explains that the surprising lack of knowledge does not lie in the field of technical subjects. According to his experience, they tend to design light and not like the outcome. When prompted he says that quantity is a factor that people most frequently complain about and he states that is something that everybody understands. He also adds that architects and engineers tend to over illuminate in order to be on the safe side.

25:15

...then aesthetically it can go to the other end. So then the client or the architect is then suggesting that there's too much light. Very often people know they don't like it but they have no idea why they don't like it. Then you sort of need to ask the right questions to get to a point. To begin to understand why they don't like it. Not many people can imagine what could it be? What could it do? What the actual power is? It is an abstract thing. It's very difficult.

25:52

-So you're playing the psychologist sometimes. Trying to find out what exactly annoys them.

-Entirely. Entirely and it is particularly interesting at this stage where a building doesn't exist and everybody has... when I say: let's light this corner brighter and that corner lower, everybody will get a different image in their heads. Because it is so extremely subjective. It then goes back to the age old issue of designers being able to communicate their designs. That is what all is about. But then how do you communicate... How do you get to a point where we all think we like something? It's very often, very typical, to work with very strong designers, very strong-minded designers who are heaving stirring the lighting design of the project to a very poor direction. As like demanding to have bad lighting. Without knowing it at all. So it's quite challenging then to try to convince somebody: why don't you try something like this?

-Stubborn designer...?

-A very focused... yeah designers focused in certain ways. And it's not always the best for the project. And the thing is that what is good light and what is bad light it is of course subjective but why do you believe that every project has the optimal correct? Correct is a stupid word but...

-A simplistic word.

-The best way to light it. And the best way is of course when it responds entirely to the clients needs not your needs. And not necessarily your needs. There's no point in trying to light something in order to win a lighting award. You can make things look fantastic but the client doesn't like them because it's not what they asked for. It's what they're interested of. Plus at the other side of things, it's all very easy to photograph really bad lighting, really well. We can make crap lighting look fantastic. That's not a difficult task.

28:20

Coming back to the lighting treatment of the trees. Summarises and continues with the trees in the front yard which are not seen from anywhere inside so he decides not to light them.

29:45

-Which views in the house you think they are the most important ones?

-When you're actually in, the kitchen view is definitely important.

-Sitting in the kitchen watching out?

-I think so. I am not sure if I would have my breakfast bar there. Because I'll be staring at a wall. I do like this connection so I do prefer sitting there looking out, enjoying the day. There is no really views happening here. This is kind of enclosed... bedroom is the obvious one seemingly surrounded by mountains and a beautiful valley something... it looks like it so that's absolute key view. To be honest I am not actually sure if I would start lighting the surrounding here in order to emphasize that night view through the window.

Changes his mind and decides the natural unlit scenery i.e. moonlight might be better than artificially lit landscape. States that there is no privacy issue for the bedroom space.

-In terms of the bedroom lighting again, I would actually and this is a very subjective personal thing, but I would probably create a field of light above my bed. So I would again do a backlit...

-Barrisol?

-Either barrisol or... The nice thing about barrisol is that it is incredibly diffusive. In that sense it looks nicer even than glass. Because the problem with glass at this kind of scale is that you end up with panes of glass you need to support and the shadows of it, it begins to look like technology somehow. Whereas with barrisol... it doesn't draw so much attention to itself in those terms. And I might have some decorative fun with it. Maybe it's a barrisol ceiling but maybe underneath it there is some kind of timber screen or with openings or so...

Draws detail of barrisol illuminated ceiling and a timber screen under it to filter the light through.

33:53

-There's something calming about that. Because the reason I would put it there is literally to be able to lie down and look at the field of light. And I actually would prefer it to be like that. Maybe even than a skylight. Because of the control factor of it. So I would use it again like something to lose myself (in). I would probably do the coloured option there as well for myself. And that wouldn't be just coloured fields or some kind of broken fields and then I have this opportunity to have this shadow, maybe I don't know that shadow might start bothering me after a while. So maybe I'd change it every now and then... That could be a nice little project to do a couple of do-it-yourself timber screens every night. But I would give it that sort of thing. And I would probably use it as an alarm clock in the winter, or in rainy days or something. A bit of light therapy.

The rest... I would approach this bed head in a similar way to the way we approach hotels where you have a separate reading light which is extremely controlled meaning you can actually read a book with someone sleeping next to you without waking up. And it has different dimming levels. I would do those sort of things both sides. I would because I know my wife wakes up every night and goes to the toilet, so I would create a nice light scene that she can flip on. Have a tiny little light under the bed, somewhere there another on in the other side, to go around and go in. Again, because it's your home you only need one because you know where it is. You don't need to feel that you're stumbling in the dark or on something that's been left on the floor. So I would have a little control panel here. Both sides. One for setting up my field and the other one for reading light, and the night light scene. And thanks to this big thing I can ramp it up and if I need to clean in the middle of the night, there's going to be plenty of light coming. I'm not here particularly worried about lighting the walls... If I would put artwork here I probably wouldn't accent it. Because again that probably annoys me. So I would just let it be there like that.

If I had my wardrobes here, definitely light them internally with micro switches. It's quite a practical approach in this sort of space. But still I would do lots I think. I would have a night light scene there and I would enjoy that. Yeah a skylight here. Do I have a window here?

-No.

-Oh damn. I would definitely punch a window through there so that I could look out when I wash my hands. It's always nice. Ok full-height mirror... this is important. And this whole zone here. Although your clothes and everything are here, that's an area that's going to be used a lot for dressing up and stuff like that. So I would actually treat this very, very carefully. And do a full-height mirror. This is something you see in posh shops and everywhere, we do this a lot. You have your mirror but you sandblast, ages old trick nothing new there. Just works. And the reason you do that is because you get that front light. Nothing works better than that. Definitely on a dimmer, definitely warm. So you have that but also I would then put a downlight quite close to the mirror and...

PART THREE

So I'll have another (downlight) here that is going to be tilted by 20°-30°, which means... you have your mirror here with a little light there and you're standing here. That is not going to blind you but it's going to light your clothes. And it's not going to light your face.

-This is the mirror? This is the side of the wall?

Yeah. And it's done in such a way that it doesn't hit you in your eyes and it doesn't hit you in the face. You're specifically just lighting the clothes. And then you have this diffused glow that gives you the ambient light to your face and all the rest of it. It's super good particularly if you're a lady. I didn't invent this; I learned this from Giorgio Armani. If that man knows anything, he knows how to light people in from of mirrors.

-You're working with him in a project?

-Yeah I'm working with him at the moment. So then I would also put both sides mirror lights around here. Something for your face because I assume there's going to be a little shading mirror in there. These again are very basic stuff you see in every hotel and they very often done very badly. And they are very often far too bright. Your pupil shuts close and it all feels very uncomfortable. This is the bathroom so we're going to be having baths here so it needs to have a little mood setting. Of course its going to have locations for candles, a little cluster there, a little cluster maybe there quite like that.

The bathroom lighting continues with the skylight treatment on top of the bathtub where John proposes a floodlight to light up the raindrops as an extreme but powerful solution that goes against environmental considerations. He tops that up with candle lighting in coves inside the wall.

04:03

For the entrance hall he is told that there is a translucent surface covering the external walls and after some thinking he chooses to place a recessed track for flexibility in positions. He checks his ideas on an imaginary sculpture. Second way of lighting John proposes is a projection of an image from outside. He later admits that this is quite imposing and would have limited use.

07:20

After finishing with that space he considers the control systems and emergency lighting.

-So what do we have here? We have a scheme that feels relatively integrated...

-You have used a lot of diffuse light. Yeah, it's quite diffused. Maybe one could argue that is kind of lacks accent but...

-But you didn't want that from the beginning...

-Yeah, it's not my kind of thing. I think my accent would be things like the candles really and the free-standing little light there, that's my accent. That's an accent of course (the fins). These things are accent and that's an accent (staircase). So, no no...there's enough there for me. And as I said when it comes to sort of introducing artwork and things like this I really generally think I probably wouldn't light them. I wouldn't accent them. To me that always looks so - I don't know - try hard kind of thing. So the lighting here I would describe this as fun, this lighting is fun, it is quite theatrical...

-Do you (to add) anything for the externals?

-In terms of facades... I wouldn't. At least now I feel that way. Because of the surroundings I think and also in terms of the external areas for use, there's not a great deal of terraces and things that they will be using... at least that's how I feel. Maybe the roof-terrace is something I haven't addressed. As I said that thing here (the tree) I would be dealing with. And in the end maybe if we can identify that as a terrace that could be used for parties and hanging outside and chilling out then I would do some really low-key lighting and very little permanent lighting. So again the outside I would like to deal with lanterns and oil lamps. If it was my place I would enjoy that. I would have fun doing it.

He repeats the same intentions for low key and occasional lighting for the terrace too and the discussion approaches an end. He then decides to do some mark ups of the lighting solutions on the elevations and a discussion about reading drawings and designing in elevation begins.

12:49

it's worth probably yeah just for the record (to say) that I would always design primarily in elevation. I didn't realize they were there. Having said that, that model of course gave me the idea of the elevation layouts and looks and feels. But yeah I do tend to approach this way. Glance that way... Well in this building, 'cause it's quite a simple building and we did all the address, we talked a lot about the elevations already but... So if you start plotting it out

Draws the cove detail in the curved wall and the sidelights on the steps. Draws the lighting detail in the built-in library.

-We talked about dropping some kind of elegant candle thing.

-And a table...like this.

-Yeah. There's a table there and there's a sculptural fixture there. Not quite that huge, I don't think. We have a great deal of niches. That's another tricky one for me. If I would say start accenting every little niche to me it looks like an Italian restaurant. So depending what I'm putting in there...

-Italian specifically?

-Yes specifically a pizzeria! A bit cheap you know. So probably I would not light them, internally. Another reason, it's subjective taste issue. I have my slot in the ceiling. I can accent those from there if I need to. So I'd have a little field of light there, little reading lights there...

15:00

-It's very interesting that you prefer the elevations from plans. Most people do the opposite.

-Well, I don't know. To me it sounds like a cliché the whole vertical...things... you know and human beings and vertical light being important and interesting.

-I don't think it's a cliché. I think it's a...

-That's how I approach things. There's a huge risk if you just look at plans and you just end up peppering places with downlights and... where's the design in that?

-I though I've done something wrong 'cause people kept reading the plans. And they didn't realise that some part of the space they didn't really get how they were (exactly).

-Ah ok. No, it's the elevation that matters. That's what I tell the guys here all the time. Design in elevation. Just start with the elevation. 'Cause then you understand... unless you do have a sketch up model or something you can zoom around and play with... then ok that kind of does the trick. But very often you don't actually have it.

17:00

Discussing a bit more about drawings and representational means as design tools.

-I'm missing one corridor by the way that I didn't light. This thing here.

-Ah, the ending part. This is already external there...but I guess you need some light.

-I wonder what I would do there. One option would be to kind of reinterpret that detail, on that wall. Because on your architectural design you have created this glazed openings effectively to allow your eye travel through. You mentioned in the beginning the whole kind of tunnel thing, so maybe these turn into a series of little vertical niches. They're full height. Proportionally responding to those and... We're here aren't we? So maybe they something like this. Maybe the spacing increases. Just a few of those and I would play them in to this playful way of light.

-So they would be part of...

-They would be part of this yeah. And then of course you can have fun with the fact that, because you read these through the glass, you drop the intensity here intentionally and you also drop the saturation of the colour so it kind of looks like the glass is doing that if you know what I mean...? It feels that they are receding, they are going away. So it's not really pulling you through that much. So you know that when you're here maybe you should turn. It all comes down to programming. You should come over one day, I'll show you.

(Laughing)

19:05

-You have all these interesting cube volumes and everything going on here but I will stick to my guns because of the environment and because it's my house, I really don't need to create that picture.

-You will stick to your concept... your initial?

-Yeah, I'd definitely would as I wouldn't see the point of doing that. I'm not selling anything.

Both together filling in lighting in elevations and an informal discussion begins about Yoko Ono and John Lennon and directly next one about laptops. All irrelevant information.

John

PART ONE.

00:00 *Briefing takes place*

14:17

Lila asks for some time to think around it. Makes some clarification questions about the ceiling heights, glazing surfaces, fins' dimensions and make, etc.

19:25

-Can I see this view from here?

Lila asks about the owners' profiles. She takes notes on the drawings. She asks about the furnishing on the workspace. Asks for the material of the bridge. She also asks about the scale of the drawings.

PART TWO

Lila mostly sketches and thinks aloud. She continues with some clarifying questions about the open-plan-ness of the reading space, the accessibility of the passageway (back yard) etc. On her route of mark ups she ends up in the bedroom area.

16:43

-So I can now explain.

-Yes, please! Too much detail, right!

-I'm sorry.

-No, no, no. It's perfect.

-For the exterior view, I emphasized these columns, so I put the light between two columns. You can see this detail.

-Inground uplights.

-Yes, inground uplights.

-You have any reason why?

-In general I want to... Inside I tried to... conceal, hide every light, except some narrow-beam downlights and this exterior (scheme). I mean, because of the sort of architecture I wanted to emphasize these columns.

-So, you think that the form was asking for it basically?

-Yeah. So in general I put every inground light in line (with) the columns, the structure and then here (other side of corridor) I don't think they need a light so, I tried to keep a minimum number of luminaires and here I wanted to concentrate, so (I'm) focusing on... just (to) give the direction, this way I put the downlights. But this way... this is just empty room, so I assumed the... they might hang some drawings... so I made arrangements for the downlights...

18:37

-So you have the downlights in every important (for) circulation... junction let's say?

-Yes.

-The washers for the wall... ok.

-Yes. For the steps, I put the... where did I...? There is the stair, right? Here I integrated the stair light. So I think I put a lot of integrated lighting. This is the best for the ... To give a very comfortable atmosphere, and then they dim it anyway if they don't want (it) they can turn it off and then. So at this stair (the same) and to go here, because they (the clients) have (this) window, I didn't want to (place) any downlights here. Because (this way) it would be good to have a simple (plain) ceiling (surface). So, I just made (designed) a cove light detail, so it will be just the and (because) I think they will not have enough illuminance (I added) some movable luminaires.

-Floor standing lights?

-And for the daylight, glazing, windows, this glazing window (skylight), I think they have (it at) three areas?

-(*Nodding*). Skylights, yes.

-So I'm thinking to put a cold cathode...

-So this detail there, is going for all the skylights?

20:05

-Yes, the blue lines, the blue coloured (ones). Because at daytime they'll be very bright and comparing the daytime (to) night time, is a bit dark, so I might give some variation, like colour change, so it (will) depend on their mood. Normally (it will be) warm white, but they could change the colour.

-So the idea was that you wanted to make something of similar appearance to daytime?

-Yeah, yeah. And in this kind of shelves, I put (in) every (shelf) integrated lighting. The easiest nowadays is LEDs, very simple. (They are) very small, so it is easier to make it and here I was not sure (whether) to put downlights but (it is) also library here, so they can turn (them) off.

-They are narrow beam?

-Yeah.

-I see that you (also) have some here, some downlights.

-There are downlights under that bridge, but here because of these columns, I don't think they need any light. Instead (on this) table I put downlights, because they might have meals (there) sometimes so... They are narrow-beam. (It is) quite a high ceiling. And then this ventilation (extraction fan) I think is empty (on the) upper side, so I put (fluorescent) batten lamps. Like... compact fluorescent lamps.

21:57

-I think you did a detail somewhere so...

-Here [showing detail].

-Why did you do this?

-Because it's very high, is it 5 metres, 4 metres?

-Then it is quite hard (for) light to arrive to the floor. You might have metal halide, something like that but in residences it is not proper to use metal halide, it is very useful to use a fluorescent which is (resulting in a) softer atmosphere, so because they have enough space between the ceiling and this ventilation, it will be very lit... That's why I put a very simple... This is a linear detail like this. Usually I put the integrated lighting to the cupboards but I found that...

-That there are no (upper) cupboards, yeah.

-So (I put) a slot detail which is linear. I assume the basic concept of the architecture is the linear(ity) so that kind of linear (fittings) I tried to use.

-Why did you put a linear detail only on that part of the house?

-Because... this house...

laughs

23:30

-No, no (it's ok) I'm just trying to find out if there is a point behind it, yeah

-It is that (here) usually I prefer to use cupboard light, but this is not suitable. Anyway they have indirect lighting here, but in here maybe (it is a) working space so, they need like bright direct light. Then this linear (slot) is just concept... it's following the architectural concept. And here, (in) this wardrobe is functional: they might need light; I didn't want to put it outside of the wardrobe so it will automatically turn on and off. (With) an automatic sensor. And here (there) is mobile lights, movable table lamps and this is integrated lighting and this...

-This is a similar idea (to the one) you did to the extraction fan?

-Yeah, yeah. That's why (I did it). I wanted to use unified... I want to have uniformity, so it's the same detail, like soft indirect downlight. Then here (bathtub) is the same daylight window (skylight) there is downlight because anyway whenever you go to the toilet, you need some beautiful looks (appearance) so it's good to have just downlights. So downlight and glowy...

25:15

-Those are wall lights right?

-Yeah, wall lights. There is downlight, downlight... I think that's all and for the exterior, here (middle yard) it will be very dark if they turn on the kitchen lights, so I think (it would be nice) to hang the fixture from the branch of the tree. [Unclear] and make the same shadow (pattern on the floor). This details should be like that and... like a linear circle, like this linear... it's the same concept, not this one this one.

-But this is in the ceiling, right?

-This is in the ceiling, this cove detail. Because they wall, so they can see this bright wall. And then here they have... pilotis so, (I) put either wall light to light the ceiling, or – I prefer – to put the wall lights, these exterior lights, to give the direction here. I didn't give (much importance) here, just the minimum illuminance to walk around there, not too bright. Here is just a tree light (front yard) for the tree.

-Uplight the tree, right?

26:50

-Yes. So do you have any questions?

-No I think you explained...

-In this staircase...

-You did something about the balustrade... yea you have the detail there. Is it (this) and the steplights?

-Yeah. Or...or.

-Oh, it's an option 1 or 2. Yeah.

27:30

-Yes it's quite clear. I've seen you put also two uplights, two wall lights on the wall, high wall up there.

Lila points at relevant detail.

-This is for... ah, it's going up the ceiling.

-Because it will be very dark.

-And there's a downlight under the bridge and a downlight on top (over) the bridge.

-Just to give those 'direction', yeah.

-So the downlights you've chosen are basically for functional reasons: for direction and land marking, at junction points...? Ok. Right, ok. Thank you very much.

28:23

-You're welcome.

Closing interview. Lila asks about data analysis and use. Expresses wish to read the final document.

End of recording.

PART ONE

-I don't know if this is gonna work or not. Ok, so I don't know how clear the plans are. I actually aim for your criticism on everything, don't be polite. For example Monica saw the drawings and she thought that they don't have the sense of human scale and dimensions. You think the same?

-I think I can relate to the human scale because it's a residence, but I think dimension-wise it could be a bit clearer. Because in a residence you end up doing a bit more detail. Some things you wouldn't even consider doing if you didn't even had dimensions.

-When you say detail do you mean you'd like to have more furniture?

-For example yes.

-Detail of how they're going to be or...?

-Well I'd probably wouldn't go that far. But I came across this (the library) and I can't really understand really what this is. Is it a bench? Is it furniture? What is the width? In that sense.

-This is a library actually and I had this in the three-dimensional which I had in the other computer. You've already marked up the plans I see.

-I think actually I tried to open your sketch up but I had a different version. So I relied on the drawings. And that's one of my comments. Maybe if you can have perspectives, just views. I think in paper it's handier because you have the set of drawings (in hand) and then you have everything. Or you have to expect someone to open the file and do the plot. Or either you send them in PDF. But since you're going there you're going to speak to the person. You're handing in something.

-I want to see what works best and with Monica it was prima-vista; I showed her the drawings and then explained her so you have to spend time and (it involves) thinking. In your case I want to see if they will be lazy to open the link. So if you tell me it's handier to have it in paper.

(Further explaining)

I will clarify things before. For example a guide through the house: this is the main entrance, so you enter from here, this is a long corridor, which is broken into those panels. They are not full-height. They are up to 2 meters, and then it's solid again, a door to the seating (area). The corridor continues to the living and workspace on the other side and ends up to the backyard. On your right hand you're stepping down two steps in to the workspace, no furniture in it. Openings... and this (stairs) takes you up to the upper level...

(Interruption)

PART TWO

-Yes you were right. I don't know how much memory (the recorder has anyway)

-Ok one thing that I liked was this ahm... panel kind of thing... and I think that one of the major features of your building. So, Therefore I think, you know, it would be worth it to light. Well there are many ways, but uplighting, I just thought of uplighting between things, it would be almost silhouette being under the glowing...

-Do you want some more paper?

-Ehm.. no, it's okay. So basically I want them to glow...

-Uplighting that is?

-Yeah, Uplighting. And then do something almost, you know, dark. Obviously because you're going from... to create and to emphasize this rhythm and pattern and this procession of planes. Obviously it's quite narrow so I think generally it's quite narrow (the corridor). Well, you probably understand what I'm talking about... It's a procession...

-Uhm yeah... the continuation...

-Yes it's the continuous thing. And it kind of catches up continuity here

-Yes but do you want to achieve it by silhouetting or to have a procession of light sources and...?

-Have a procession of light sources and at the same time – for example here- you'd have probably this kind of view you'd have more silhouette view and from these people that actually walk in this direction. So, I think in that sense you can have almost a double perspective of the same object. So here it's just a procession of planes and here it's something that – you know – kind of silhouettes on the background... Ahm so and this kind of lighting where you had these things, cause I think you know in order to make a connection and to make them clear well I would use the same thing here. And I think that it's important I mean what I found interesting is that you continue this it through the inside and once again I think it's what I find interesting and that is a feature of the place and everything kind of closes around it. I know that you thought here and I thought it should probably continue...

-Ah you would continue them full-height.

-Yeah. But if you personally think ... I understand you know, you wanted to see this as an element. But I just think if it comes here and it's kind of projected and to change its tail it would be interesting... it's kind of projected.

-Yes that way it gives more a feeling of intensity (?)

-Hem, you know because you're actually dividing two volumes at the same time, you're dividing these kind of you know narrow corridors against a double height space. And I think that could be as if you continue. Otherwise you don't have the perception that it's really double-height. To make it more interesting. Well, Once again I think you continue, I don't probably you'll have to light from here as well... to have the same effect.

-From... hem. From the ceiling downwards?

-Yeah I don't know. Just to.., from a technical point of view it's probably better both ways. But it could be actually interesting because you'd have almost the sense of perspective if you have the gradient maybe... ahm... so that was one thing... another feature that I liked was the bridge... it kind of cuts this volume and it could be interesting. Even though because I was not sure what kind of material was in this time.

-Well, I'm not sure either... The more sketches you do the more helpful it is for me...

-So, you can take these ones...

-I'm gonna scan them and file them.

-Oh good. So I have to make them nice.

-Yes... yes.

-So, I mean, because I was not sure, I'd like to make it glow this thing.

-So you would put glass then.

-Yes, I would put glass.

-Sorry, I forgot to tell you, there is no budget and that you can make changes. I have already told you have I?

-So, if this would be glass I'd like to make it glow. So the idea would be; you know you have something almost like a floating slab. Ideally, you'd have... But maybe at the same time it might be a solution for a bigger space. And as Monica pointed out because you don't have a sense of scale you're not really sure if actually that relates to. It's obviously just a soft glow. I think it would look nice.

-So for here you would use edge-lighting or...?

-Yeah, edge-lighting.

-In the beginning I thought you meant (to light it) at the bottom, the base of the bridge that you wanted it to be transparent...

-Well, I think I wouldn't have that in a residential (environment). I think that this huge void that you can overlook. I think it is a bit modest space so, you know; and I think that I like... I am exploring this contrast, between the silhouette or the volumes. This kind of lines against the glowing background. Maybe, that's the case. You have a solid thing against kind of areas of more glowing, delicate, fragile. Which I think is softer. I think glass, is very high-tech. You know, unless it's very...

-...warm?

-Yes. Obviously it has to be... you know imagine... I don't know what exactly would be the material. Is it wood or concrete? But still, I think that lighting applies to both materials. It's actually emphasizing the shape... the form... itself more than the material. The point is you can change completely the feeling if you have wood, because it will probably look warmer, with organic textures and things like that. But with the concrete you just have a succession of planes and they become probably sharper

-Can you tell the colour temperature you would use, if you knew the material?

-Yes, in some cases. It's something to do with colour perception with light sources. It's that kind of contrast. I think there are some colours for example that don't work with this colour temperature. Unless you know that actually changes that effect. That it changes. This green for example if you know it's going to want to keep the same green if you had tungsten...

-Hem, yes. It depends on the lamp. For this specific case would you use different (colour) temperatures for different places or for different turns (?) Have you thought...?

-Yes. Well, because it's a residence I was thinking more of a tungsten or warm colour temperature. Maybe I would use like am, cooler temperatures for kitchen or bathroom which are spaces that you want to be clean, you want, you know this sense of cleanliness. In these social places, I will probably put warm colour because that's where people probably want to stay. That's where they feel more comfortable.

-So it relates to function then...? Not to the form of the space... has architecturally.

-Yeah, you relate more to the function. What the feeling (is) that you want to transmit. I think it's more attached to mood; or to an ambient. Probably more than the form of architecture. I mean obviously there are some light sources that might work better with the specific material and texture than others. But obviously in this case you would have known very exactly the materials of very detailed material. So I think with the information I was, I am more inclined for the function.

-Ok. Probably we can go on...

-Yes. So you enter from here. We have this touching of light that continues towards the insides; which drives you to the inside. I would have simple and functional lighting on the corridor.

-Downlights?

-Yeah downlights. And maybe they can be dimmable so that people can... hem. They can adjust to what exactly they want. But I assume that if people are going to use this space they want to know where to go. In the workspace. Because there's no furniture, and I like this curved wall, which I think can be highlighted maybe with a cove or something... Should have a wash...

-On the top or on the bottom? Do you want to use some coloured (pencils?)

-For example, here in the workspace I would probably even use cooler temperature. A more whitish. And I don't know what colour you were thinking... But again, that could affect the colour temperature. You know it can be fun.

-You mean what colour the wall would be painted?

-Well I would see this as a white-greyish thing so you should colour this colour temperature... In the furniture you can have some table-lamps. But I think the most important thing; I have some downlights but I think it would be more for function thing. Because I didn't really have a layout...

-I deliberately didn't put any, because I didn't want you to the position the fittings (according to the furniture).

-So for me the important thing would be to highlight this curve. And this (the downlights) would be more for function.

-Do you think you need furniture to be more specific?

-I, think it helps. I know this is the way it was - the black canvas. I could go wild -if you can say that - in the ceiling but I just think it's a distraction for a workspace. Probably if you have a clean furniture maybe you add some interest in the ceiling. But then it tends to be too much. That was my way of thinking but I don't know...

-How would you call this effect with the cove?

-I would call it a wall-wash.

-And the light from the downlights dropping on the tables?

-Yeah, just pools of light. It's funny. We can create a bit of interest. And even though I think they will come more uniform and probably strict pool...

-So you just then like wider or narrow-beam?

-Well I think once again it's the function. Because if you have a narrow-beam, it will be very obvious if it's not pointed to the right direction. You know if it's not focused or centred. If it's a wider beam you just get a fuller form so, it won't really affect that much.

-Ok, so we come out of the workspace...

-Yeah we come from the workspace in the living. Now I found out about the rooflight which I would like to maybe make a glow around it...

-Like a halo?

-Yes, like a halo. To emphasize that. Because I think it will come an important feature. I don't see any windows here, so I think it'll become an important feature during the day. And I think at night (it) should have the same kind of ... It should have something. It shouldn't disappear in the space. And yes I think with a halo... with fireplace it will keep like a glow, warm glow... But that's not something that I can predict. Yes it's something about mood. And I would just use some kind of floor-lamp. I like it more cosy and human scale.

-And you have also downlights on the rest of the...?

-Yes because that's then when I didn't know that was...

-Yes, the rooflight.

-I don't know how does this wall would look like?

-It's straight. And it's around 3 meters. And it's lower so only this space and the kitchen are lower. And only the room is rising to total of 5 meters. So this (the seating space) is 2 meters high. But it's also 35cm low... and this is 2.50 until you find the room and this is another 2.50 the room ceiling. And 3 and 4 I think the kitchen and seating area.

-Does this have a texture?

-No it's plane. No, I don't have textures. The only thing is at the fireplace it's see-through. Like there is a hole here and on the other side. So you can see through.

(inaudible talking)

-Well, I guess if you don't have the fire, this would probably get a bit darker... So maybe I could do something even though I am not sure If I should probably centre the seating here (on the wall) or continue the seating... hmmm

-Hmm it's good that...

-You know It has nothing... Yeah maybe we can... hmm not sure. Yeah once again do something like a wall-wash. Well, I don't know if you have a colour here.

-No I haven't coloured the space. No.

-You don't have colour. Just only shape. Yes so it could be... but still you need this contrast. Even maybe this could be almost be the same colour as this one. And you know when I say colour temperature it wouldn't go more than 4000K or 3500K... But I think you have to come with more floor lamps or table lamps just to give more human scale.

- Is the rooflight like this?

-Yes

-Okay, So we're actually lighting this part. Okay. Am, if this is shelf I could do some kind of lighting just integrating in the shelf.

-Okay. How this would... under the shelf or?

-Yes, just under the shelf. And here, in this step I'll do something you know to...

-A ropelight or something like more...

-Yeah just to emphasize this kind of difference of level.

-Would you do the same for the workspace?

-Yeah. I think I'll just do it here. I think To emphasize the competition. I mean I know this is different but because it's separated in this type... I think I'll just (unclear). I'd put a row of downlights because I kept this area quite dark so my row of downlights will be just at the circulation area. And I think with the furniture lighting you can have a glow maybe you can put somewhere a table. You know that's part of the living so I don't know if we could decide.

-Is there a cove on top of those, or is it something else this dotted line?

-I think this dotted line was actually because I thought you had... you know it's almost task lighting for the counter. But since these are (the coves)... I would make them maybe glow? So you'd have some light from these shelves... from these niches and you know, contribute to the functional light. And I think here, because it's the eating space I would just maybe use a pendant. Is this a table?

-It is an island. One part of it is for cooking and the rest is for sitting.

-Ah. Ok. So I thought it is a table. What is the height? 1.20?

-1.00m

-1.00 meter. I don't know it can be something small. Actually...

(Laughing)

-So probably it can have something on the top... Maybe here, maybe smaller pendant. Am... unless you have actually a structure that you can integrate lighting. If you continue this you might use lighting from here.

-So you think like a frame that is suspended.

-Yeah. But you know that's probably something that you can specify.

-No but it's part of the lighting.

-So that kind of covers this area... I'll continue up here. How's the recorder? So I think it starts... I am not sure what you intended with the wall (stairs).

(Interruption)

-I think it was the wall where you could actually recess something. Like walllights.

-You know the level of the walllights?

Yeah well... kind of 300?

-Yeah it's ok. I just wanted to see if it's something different (you are proposing).

-I think this is quite a narrow space anyway so I wouldn't do really very fancy...

-It's not very basic... like about 1 meter. It's not narrow it's not very big either.

-I think is more a functional thing.

(Interruption)

-So that goes for the steps

-Again if we had this... I imagine this would continue (the panels) this light effect it would be nice. Otherwise what I thought: this is a double height space... maybe have a nice pendant here. A kind of glamorous... chandelier kind of thing!

-Chandelier? Wouldn't you go for something simpler?

-I think, I would go for something that glows... You know more than a functional thing... more decorative like... (something) that has a presence. It obviously has to do with the type of space that we are producing. Not sure if I would go a very practical crystal chandelier... I think I would say something figure-imposing. So, here we mentioned edge-lighting to the balustrade. Another thing... so I think it is important because it might happen that you can use this surface to accommodate... No but you have these things (the panels). Does this stop below?

-Ehm, this is the thing with this. If it was at full height... because it's the bridge (interfering) and because... I didn't take them full-height because they would divide the void... and because I thought it's a nice space to look up...

-But once again I think you're actually already dividing the space. Even if you keep them at two meters. So I think if you want to make it a stronger feature, I would go to the top. And then you're sure that you want to divide. It's not very clear. But you know that's a personal (view).

-Yeah it's not the point of the whole experiment. The space can have a lot of mistakes or anything. It doesn't matter much. It's how designers respond to space. That's part of the experiment as well.

-Yeah but my feeling is that this kind of ends early. It doesn't have a sense of continuity. Of something that stops and cuts, a section. And I think in that sense that it can change a bit the lighting. So we come from here... with these parts illuminated, these things that you can overlook maybe a pendant here and the feature of double space. I think if these were clear you could use this space to accommodate underneath the downlights... for the area.

So, the bedroom...

I know that you put here a translucent material, so I suppose you want people to do something or to be aware.

-Not necessarily.

-I would just see some normal kind of forward lighting, just like downlighting, but this would glow (anyway) through this translucent material.

-Exactly, whatever you do the room is glowing through...

-Yeah, so I think more, because at the end of the day, this is a door, so I would have this area to light so I thought if I just do kind of downlight here, to keep it glow...

-The door can be from the same material...

-Yeah but it's a frame and if it's a conventional door... It might affect technically

-How you circuit that...

-Yeah, so I would just put some general lighting in order for this to glow.

Am so I put some table lamps... I don't know, is this a shelf?

-Yes this is a custom made wall which is like... on the side of the bed, you have the shelves facing this way and on the side of the bathroom you have the shelves facing that way.

-Ah ok. I might just include here some kind of lighting. I think in this particular case I'm relying a lot on the furniture. Which is not usually the case.

-But would you rather have that?

-Yes because I think you hide the light sources and everything is kind of integrated. And I use maybe some of the lighting, I use it to enhance features or make it decorative.

-So you divide the purpose of the light sources, if it's functional you integrate them to the structure you want them to be visible and...

Well, the thing is because the space is so small, I am just afraid that it'll clutter everything with downlights. You really need some functional lighting. People will live there. So I just think some lighting can be provided by these furniture. So if you have that opportunity then I use it. But if you can't integrate anything in the furniture - that obviously has to do with the clients that you have or the possibilities of the budget. Then you end up with general lighting. Especially in a residence, I don't think we should go... and for this specific scale... I think lighting has an important role but at the same time it has to be human. I wouldn't go really colour-changing kind of things, but that's a personal approach. And I think that most of the things that you don't really see like flashy ... I'm staying a bit low-profile, that's my point of view: how I integrate lighting in architecture.

-Apart from coloured-lighting and very obvious and extrovert lighting (solutions) is it something, other technique or other effect, that you dislike? For example I heard you saying that downlights are a necessity and that you use for functional reasons.

-Well I mean, if you have to provide certain lighting levels, or you have to have task lighting, for example in an office, and you end up with a regular array kind of thing... I don't think you need to go for a regular array...

-So it's not the selection of sources, it's how you array your fittings.

-Yeah, I think every light source has its own possibilities. So as long as you do it adequately, and I think this kind of answers of what I was saying about the colour-changing. I'm not sure if it would be appropriate in the specific case. You might have designers that wish to have colour-changing... maybe this wall because it's neutral. Maybe we could have a bit of colour changing but, it's a space that you're going to be living there, to be kind of warm and you get tired (by colour-changing) and I think because it's a residence, it's a house, I think you should stay kind of neutral and that's why lighting integrated in the furniture could be a good possibility... it kind of blends and you see it as a whole space. Lighting is not outstanding from architecture, it's actually integrated. And for the scale I think it's the most appropriate approach.

-So, to summarize the bedroom, you have put...

-Just put some general downlights, not over the bed because you don't want to be over people, might have some soft glow, some table lamps...

-I see some dotted lines over this wall...?

-Yes, because it's the kitchen...

-Yes, that's a cupboard... (Inside the toilet)

-Oh, did you say it's a cupboard? So it goes to the top?

-It goes up to 2 metres, it's not full ceiling. Two meters high. I forgot to tell you that. That's why it's not black (the dividing walls).

-Ok, it makes sense.

-It's just one/two people living here. You don't need privacy.

-So how does it work...? So in this case, I would probably go here. I was not sure if this is like...

(laughing)

-I am enjoying it as you can see... Or if it's something...

-It's like a hole, so it's not... (for the shower cubicle)

-So it's like a frame? This is what I thought...

-Yeah it's a frame... So on the outside you see the wall and you see something like an extrusion.

-Great, because I think you can make this glow. I would use some kind of wash here...

-From the ceiling to the walls, like a wall-wash?

-Do we have space for that? Because I think the best is that.

-It's not as small as it looks... It's 1.10 (width) to 2 meters (height).

-Yeah but the bathtub goes to the walls, so it means anything that you do you have to do in the ceiling.

-Yes but you can... what do you have in mind? Just put the effect that you want and don't worry about the [?]

-I don't know I just want to wash this basically... these walls. So you have this kind of contrast. Actually it looks almost like a window. And that becomes the feature of the space. Actually I'm not sure if I would keep that, but I don't know what I want!

It's almost like an aquarium maybe... I don't know it can be a bit cooler... maybe this would be an opportunity for colour-changing.

-You would use colour-changing?

-Well if it's appropriate yes. And I think this is coloured as a feature. Maybe I wouldn't use all the colours of the rainbow!

-Why not?

-Well, why not, you know just you can have a warmer feeling and it's like someone on the bath can dream...

(Laughing)

-So I would put someone here he... he...

- Ok we got it you have someone lying inside the bathtub! This is gonna be scanned and published!
- Ok so that's one feature; I'd like to illuminate these. Do you have a mirror?
- The mirror is opposite (the sink). On this wall.
- Ok. So this is actually round. So you can do once again... a glow... over. And if you have a cupboard... because I was proposing a kind of indirect lighting... and because this (the dividing walls) doesn't go to the top...
- Where you were proposing that on the ceiling?
- Yeah on the ceiling...
- Washing down?
- Yeah washing down. Actually we can do washing up... I think well first... when I'm proposing a cove I see it as a uniform wash, that you don't really see the light source. But when you are doing it from the ground it is a bit tricky.
- You see the light source.
- Yeah, unless you want to emphasize textures. For example if you have a stone wall. Then I would probably uplight, so that you notice the texture and contrast. Cause the shadow's now different. You reverse the shadows. So you amplify these.
- But you can see the same effect from very close offset of downlights. Washing from upwards. From up, downwards.
- Yes you can but I think for this, this is the case. Maybe I am used to see this effect. And you tend to relate to things that you see. I think I prefer the uplight version. But this is a plain wall I think I prefer a soft glow, a soft wash. So the mirror is on this side?
- Yes.
- Can we have lighting into the mirror? Integrated?
- Yes, yes. You know you can do anything.
- And what happens in here? You have... on the other side?
- It's nothing, it's just a wall and the toilet behind it.
- Okay. Do you think we need any lighting for the toilet?
- Hah it depends! If he likes to read his newspaper... functionally you don't have to... I don't know do you think it's gonna be adequate?
- Well I didn't think about adequacy. I'll leave it. And landscape-wise, I just put some uplight in the bushes, so you have some highlighted shadows. In these I would mark the wall (the underpass wall) with kind of written...
- Are these wall-lights?
- Wall-lights. Well, just simple. I assume this wall... does this go to the top?
- Hem yes, it's high cause it's covering the ground that is behind it.
- Does it have a texture?
- Possibly you could have this stone.
- So maybe you have an opportunity to uplight; from the ground floor. Considering there is a texture. Otherwise, just simple wall-lights. Maybe similar to the ones that we had on the steps.

Just to wash this. Wash the path. And then you have some here and in the bushes. I'm not sure. Is this the wall...?

- This is low it's about 50(cm) and you can sit here.

- Ah ok. I think if this is possible you would continue. You'd want to continue this effect (of panel uplighting) So you'd have kind of this feeling.

-And how about the house, generally?

-Am, I think I would rather rely on the glowing from the windows. And I mean obviously if you have some kind of lighting here it will catch up the shape. And once again it's a residence so you don't want to over light it. I just think it's important for you to define materials. Because I think lighting has to respond as well to materials and to colours. It's not just about shape and form and function. Because architecture is of texture as well. It's solid, it's matt, it's texture, it's colours, it's visuals. And lighting can emphasize all these. You can emphasize just texture, just shade, small things.

-Do you think the orientation will be useful?

-I think so but I assumed we were talking about interior lighting...

(Interruption)

-You were saying about the orientation...

-Well because we didn't mention natural lighting... I know that's one of the concerns of the lighting designer...

-For the views and day appearance...

-Yes... I think as an architect is important and as a lighting designer. If you say north is here you might have a projection of the sun through your sky light. You might think it's interesting to reproduce that during the evening or...

-Do you think you want to reproduce what is happening on the daytime on this scheme?

-Well I wouldn't personally. In this specific case. But sometimes you are kind of tempted to bring again whatever. Sometimes it's the colour temperature. A skylight is quite tempting to make it glow. You want to repeat the same kind of effect. If you use light, you have light boxes. I didn't use downlights here because I wanted to attract attention for this feature. I think if you seat here you could see the light box and have a diffused feeling go a bit funkier.

-On the corridor?

-Yes on the corridor. Then this becomes a complete unique feature and then you lose all the rest.

-I noticed that you didn't put any lighting on this part. Apart from this part where you put some lighting you didn't put any light...

-Actually... yeah I didn't because I didn't know what is in here. If there's a view.

-It's probably the way out of the house, and view to the rest of the countryside. Cause it's not an urban living.

- Well because I didn't have information what is happening here. Is this the same? This is quite well-treated. I wasn't sure if I wanted to emphasize just these walls. I probably prefer this integration of the space. In the evening this becomes almost like a black hole. Your attention is attracted against... maybe you have this pendant here... That is your point of interest is in the house and not the outside. I see architecture in a context and this is a completely virtual environment so it has to do with your imagination.

-Well but in most of the projects, you don't have any more information than some drawings and already they give you the sense like going inside.

-Yes that's the way it is, but my education was that you are aware of the environment and that what it involves, the ambient. Architecture is about context. And that's why it's special.

-Monica has asked as well for a bit more integration into the general landscape, how the site is orientated and how its placed surrounding.

-Yes it might be on top of a hill.

-It is on top of a hill.

-You might want lighting to emphasize this curved wall. That's different. I wanted to keep a low profile and just highlight the trees. As an architect, I feel that this is missing. As a lighting designer with a different background, I'm not sure how people would react, if they would react to those things. To the ambience to the site, to the landscape.

-Ok I think we covered most of it. And I have your sketches...

END OF RECORDING

PART ONE.

00:00

Briefing takes place. Max takes his time to familiarize with the drawings' depiction of space.

16:57

-Mmm... Complicated.

-We can always go back to the visuals and turn around. It's all there. The other set of drawings is... I haven't really shown you that. This cuts through this space and there's also the bathroom with [the] niche, short wall and there's the bridge... and that's the entrance façade. This is just the plan of the roofs. We've gone from mezzanine, then [to] the roof.

Briefing continues.

18:26

-This is through the corridor and...

-Right so that runs through the corridor...

-There it gets higher...

-Where does that switch from...? [Is it] here that it goes from internal to external? Right. Is that...? There's a view past the planting to the landscape here?

- [Nodding]

Showing the views in the model.

-So those are the views inside and outside. This is the kitchen window and trees... and here's the bedroom window and the entry in the house is basically blind.

-Ok you've only got the views from the bedroom, the views from this double-height room...

-Oh I forgot to say that this is the workspace and... I forgot the workspace. This is double-height it's basically... I haven't; put any furniture in... it's just this double height space with large glazing... which you can open and you can pull the furniture and sit outside in different seasons... and

Interviewer adds more clarifications about the lack of furniture and the workspace in general.

21:45

-Is there any restriction on recessing or materials?

-No no restriction on any changes to the building. You can even propose things. There is no restriction on the budget; there is no restriction on quantities, or any client preferences. All I am after is your personal response to the architecture, to the space basically.

Max is prompted to do as many sketches as possible.

-In terms of route, this is on one level, going through here (underpass), and come through this door (entrance yard) and then are you on level going at...

-There is a small ledge, so you can't go across there, it's only for joining it as a yard.

-So you can't access that way.

-No. You can only do it from inside or from this side.

Interviewer adds some more info about the projecting volume of the bedroom.

25:55

-My initial thought is very clean; the space is which we will... I think you want to integrate the light as much as possible. So you are not actually seeing [the] light sources. And as far as possible not seeing downlights or sort of expressed elements in the space...

-When you say 'it's very clean', how do you mean it?

-It's very clean, straight lines... for instance the cupboards here are stepped back rather than sitting forward. So you maintain that as [a] very straight line (back wall) going through... These are very linear organised lines. This is all very clean. My gut feeling is that you don't want to break that up in terms of the lighting. This is really interesting (curved wall). This major space. This is kind of a big presentation of the house. The internal presentation of the house to the outside world. There is a kind of play-off between lighting it effectively and still maintaining your view out. If there is a view out... at night time. It depends what you see out there at night. Is it spectacular or is it in the middle of the country?

-It is in the middle of the country, yes.

-So there is not a lit environment looking down on?

-But you do appreciate the view... so if there is an intention... you say that you want to keep the view if it's a good one then?

-Yeah. So you got to be careful about creating reflections in the window. Then it [will] stop you seeing a view out.

30:40

What's the ceiling height in here (living space)?

-For which space?

-This [one]. The living space.

Explaining ceiling heights.

31:15

-That is low, isn't it? That's only two forty...

33:37

-Can I have look at the entrance, through the entrance door?

-No I was just trying to see if there is a... sometimes the entrance sequence... Three ways you can do it. One is to tie this line through to this line [unclear]. So that you're making the entrance thing clean. So you'd have a detail... (Sketching) it's just washing light. Alternatively you could lift those faces, this element which links with this element to lead you through. Then the other thing is the frames, the entrances, the rhythm that runs down through here.

-Light up the doors then, the portals?

-Picking up the portals. Picking up the frames. So you get a rhythm of spaces. So you approach, you are being led through the brakes in the corridor, rather than emphasizing the regulatory of it. Or you can do both. So you start to get that movement. The light starts to move round the space.

-So that would be uplights?

-Uplighting the portals and on this fins and then lighting on to the wall surfaces so that this gives you your functional light and this gives you a feature light and you can play around. And for this one, assuming you have a control system in, for this one, it's more dramatic, there is more about punctuation and rhythm, and this emphasizes a very strong line going from the one side to the other. And you start to give some shape to the...

-... the corridor?

-The light it's got a directionality that you take on it, rather than just lighting down on it, which is a bit dull.

38:42

-Ok. So...

-So you're choosing both effects then?

-Yeah. I think if you have this all the time, it's quite dramatic but you'll get a bit irritated to live with. I think you kind of need the choice between. I mean I built it to get a good level of functional light and you need to have a much more subtle or dramatic presentation. And if there is an object, then I'd put both in. This I would have a problem with the impact of this if you have it there all the time then it's... I'd wonder about it.

40:19

-Coming to this space (workspace). Is this...?

-It's this on here.

-So it wraps around, you're getting a view through to this column... skylight. So this doesn't... So this is at top level?

Explaining how the staircase is structured.

-And given the... the kind of display element...

PART TWO

-So you were saying...?

-In this space you could put a chandelier coming down... it would look great... just coming down... Drop it down here. It doesn't really fit in with the work... Well, it's not going to provide the lighting you want for the workspace but there is an opportunity with the spiral staircase to make that a chandelier element. A decorative element. So these are solid? Balustrade... wraps around so we've got... a section of stair...

-You're thinking how to light the balustrade then?

-Well what you see of it... because your view from here... you view to it... at some points you see the inside of it and at some points you see the outside of it. So you kind of want to do both. So you'd only need a section for support. If you've got the... I'm not quite sure how to do this. Presuming there are some very engaged builders, a good engineer... If you're going to light up here, if you just float the step away from the balustrade, which makes the whole thing a little bit more interesting to go up. It's like any stairway floating away from the wall. It becomes an object. This is a metal step, so you can't really light through the steps, so floating it out here, which gives you some presentation at the bottom, but you start to lose it [as you get up]. We are looking to get a detail that's lighting up on this face, so you'd start to get that sweep as you begin to come around here. As a band... You could do it from the top, but I think you are more likely to stand here looking up, than you are to be on here, looking down directly over the balustrade. So you get two... two bands.

05:30

I kind of like to keep all the rest of the lighting down at this level.

- What is this? Is it the lighting to the walls or is it that you're you thinking of the view points?

-Well just thinking of the ambient lighting you want in the space, rather than trying to punch light down from here, or lighting that sweep of walls which gives you a very lit space but completely

destroys you from the detail of that... That you really play with this element (vertical volume of staircase); you could hang a feature element but it'd... you kind of separate... You start getting these elements hanging in space and then any other lighting is task lighting for workplace lighting. Or it is at low level, so that these just hang in the space rather than trying to complete the whole volume at night. There might be some issues with light levels in terms of... as a workspace. It depends what you're trying to do. If he's working at a computer it's probably not a problem, if trying to work on a drawing board it might be a bit of an issue and...

-You can always complement [the light] with task lighting...

-Yeah. I think it's keeping all that functional lighting at a low level. You will need some functional lighting in the space so that you can safely move away through the stairs. This would be plenty enough light to navigate the stairs clearly and I'd kind of light this as little as possible, also keep it quite at low level. If you need to supplement it you can punch light down from high level. You just keep it off the walls.

-So like... sink a downlight that is quite narrow beam so that it reaches down...?

-Yeah. So say you had no light here but this is lit... You have this you've got this which is going to give you a glow so you don't lose the high part of the space. Then if you wanted to you put in downlights that come off... the steps here so that gives you downlights so you don't hit any verticals. And you'd want some light coming from here. Juts to get across this on the space at low level. Which breaks the boundary of the glass. And allows you to see through.

-And would that continue or it would just be two wall lights there?

-Well you've got your low wall here. So you don't really want to accentuate that. This is lighting to landscape. If you've got elements out in the landscape you want to create a kind of a view out. You can light elements, say here... but the more you light here, the more you lose distant views. It depends what you want to look at. It depends how far you want to go. To decide... I think you're trying to see to an existing view that is a town or a feature that maybe the extend of your property. That might be the end point of the view. If you're lighting a tree here, you aren't going to see past it. So it's about structuring the view.

10:39

But you need this little bit of light here just to bridge that gap. So it's kind of playing about the grand scale of it. And at night you're trying to create that human scale with these two elements playing towards the ground.

-Yeah. So as long as I have your intention recorded, that's fine. You don't need to solve it in a way. I understood what you said about the views. So if you knew what's going on you'd probably make a decision...?

11:56

-Living room is... Focus here (library wall). The library is kind of about books. Is this line of the skylight?

- (Nodding).

-In terms of feature, that's a feature element in this space. So I want to have something in here and something in here (shelves underside). So pulling at these niches.

-So you're putting light under the shelves then? In front?

-Yeah.

-Can you make a detail of that?

-(Sketching) So ... the linear.... Nice to do it in xenon. Could do it in LED. Or could do it in fluorescent. Xenon would be nice but it would be the least kind to books. You should light this frame. You don't need a whole lot until you get back... These are steps?

-Yes.

-The fireplace would sort of... [how is] the structure? Is it sitting out as a...?

Showing 3d model on screen.

16:00

-This is just a... This is a strange space (entrance sitting).

-It's not very functional but...

-Yeah. My gut feeling is that you'd want to... I'm not quite sure if you want the skylight but... I'd want to wrap this space with an LED... eh... Xenon detail that is lighting down there... it's throwing glow around the top to wrap it round. So you've got... that's the elevation. All right this is right up here... and the fireplace runs down here so that's lit. Right so this detail will wrap around to here so... you get glow coming down. And basically could be your ambient light. Which relates to this. It's interesting to make something you can make this... It could be...

-Is it like a channel that runs around...?

-What? Around the rooflight? Yeah. I'm having that wall and that in... It'd be interesting though with different colours... Blue and xenon work very well together. Having just read that blue lights keep you awake at night. It looks fantastic but I'm not sure if psychologically is the best thing to do! [Unclear] saturated blue messes up your biological clock. But it does look very beautiful. And that just need to be with a little diffuser over an LED channel. 'Cause you're going to get reflection of the rooflight, so it needs to look quite sharp [unclear]. In terms of ambient light you have this. The available space on the floor to put anything else...

20:36

What the room lacks is anything at low level. It kind of lacks the opportunity to... [it would be] quite interesting to light up here (the fireplace) on the pier, so you've got that division. So you've got a linear detail along here, lighting up here and then light coming down on the [vertical] planes. This is very low. So we're here but that's... This is the entrance way?

-Yes.

-Is this balustrade? Is that concrete balustrade?

-It's concrete the spiral one and then the linear part is glass. So it stops somewhere there and then the glass starts...

-The glass runs across there... ok. And is that doorway then full height?

-Basically it's not a doorway it's the ceiling that continues.

-So it runs through there... ok. It'd be nice just to get... because the ceiling is so low... to get some light out across the ceiling. In this section... I was looking to do it of the back over here but you don't really have that opportunity. You get some glow of the fins... But it would be nice to do that. I'm not quite sure how you'd do it.

-Light the ceiling from?

-Again from a linear detail... to wash across the ceiling so you wash across the ceiling here, you're washing down the walls here and just getting some light from the ceiling it will tend to lift it up.

-That would look nice yeah.

-And it works in the same relation to this.

-If you could lower then the library you would have space to put it.

-Yeah. It doesn't need a huge amount... 150 mm. So we're keeping the same sort of language for horizontals across here. Even if you want something in this zone...

-You do or you don't?

-You do, just functionally. Which could just be downlighting. This is all single height here, isn't it?

-This is double height.

25:40

-So you just got a bridge across.

-Yes it's just the bridge. And everything else is double-height. So that's the bridge basically.

-[Is it] double-height here? Is that single height or is just the bridge coming across this?

-It's just the landing there. That's the landing.

Max is trying to work out the ceiling configuration around the living space and corridor.

-Which means you have to shuffle around a bit to work out how you line all that up. That's essentially how all that should connect. I'm not sure about the balustrade. I don't really want to downlight so have all that right above it. I don't particularly want to make a big feature of the balustrade, running through there. I suppose it has... is its clear glass?

-Yes it's clear glass. It could be frosted if you want to incorporate something there.

-If you had something in the floor that was actually set back from the glass and that was etched just at the bottom. So you just got a glow.

-Edge lighting then?

-Which is quite understated... But just connects this through the space it picks up what you're doing the outside of the staircase [and] takes that across. Through there does this [is this] the balustrade or it goes all the way up?

-It goes all the way up.

30:47

-So this is just a hole? Through the gap here?

-Yes, it's eh...

-Nothing closing off?

-No. But it's very difficult to get through these... I don't think you'd fall.

-That's fine.

Expresses concern about safety regulations. Small talk and joking about the issue.

31:31

-Ok. In here you'd have some built-in lighting over the hob. I think you'd want a suspended element over here, so you're wrapping it.

-Where is that?

Having a look at the drawings, Max is looking for that section to sketch on.

-Well you want lighting the centre, but if you're pinning light down, this is a high space. You really want this to be quite focused area and I think I'd get the lighting down over the table. You should

be able to kind of have the kitchen be very bright. But you should be able to close it down as well, particularly because you've got the view through from your kind of living areas. At night you might want to keep this at very low level. So that you know... it's still alive but not glaring. Functionally you'd want to get light into these. Both functionally and decoratively. Light into these niches. I suppose [unclear] to have light both sides around this detail set back in the wall. My next thought was: hang on; if you're looking from here to those lines of light, do you want to see them? My first thought was 'no' and [then] I think if you can get the light under control and get the right colour then it will work.

-It's very hard to see them though because they are inside so...

-But you need to have them reasonably close to the edge to do anything. If you've got your niches like that and then say you step your shelves back, you really want to get the light sitting in here, 'cause if it's back here, which would be beautiful, but pointless. Because whatever you have sitting up here, will just be silhouetted. You'd have to shed a lot of light down to it to see what's in the front. But I think it should be a consistent detail running through from the back so I'd put them in there for now and revisit it, I think.

Talking to himself and marking up the plan with the last decided solutions.

36:18

Now, tungsten. Do the building regulations apply to this?

-Yes

-They do? That's unfortunate.

-Oh! They don't apply... sorry. You're free to do whatever... don't worry about regulations.

-Ok. I'd do this with tungsten so you can dim it. You can have it down really low or up really high.

-Are they narrow beam or wide beam?

-These would be narrow. On to the surfaces. The idea is to hit the surface. This and this will probably be fluorescent, but if you've got this light here, you've got with these on, at low level, you've got plenty of light to light here. You probably don't need a whole lot more than that, but you've got light in there, in the niches and I don't think you need a great lot more. You've got the...?

Asks clarifications about the ceiling again especially that running across the middle part of the living room. Referring to the 3d model.

38:56

-I was just thinking about this line going through into here. I'm not sure whether you need it. I'd want to light the tree, in terms of the view out. And this in a big planter?

-Yes.

-What I've been planning to do is I'd [unclear] at low level in the planter, uplighting the tree, to light portals, right here like this and this and on here, I'd light this out at low level.

PART THREE

00:00

-The detail you are drawing is for the planter?

-No just lighting along here. (Underpass)

-Wall lights then at low level, is it?

-Yeah. I was just thinking about then... lighting up on this edge... to wash the soffit, which again starts to give you that, rotation and that sense of direction. It depends on how... if you're moving through the space, then this is fine. If you actually want to use the space then this doesn't give you very much in terms of functional lighting. But this just bounces some light in the space will make this more useful. It depends how you want to use it. You know when you need it just [as] a transition space, and then light at low level will be fine. And does it... it's carrying the bedroom?

-Yes. Half of the bedroom. The other half is on top of this seating space.

-Ok. In here, if you're going to light this, you'll light it from this side. So when you're approaching you'll look into...

-Focus on the wall...

-Yeah. So there's a glow there. And then pick up all the...

-Shrubbery?

-What the landscape is. But that's partly driven from the approach. Upstairs.

-So it's detail on here... detail right here. Does this just go to wall?

-Yes it's just eh a space [unclear]

-I'd want to put something on the wall and light it. There's a view through.

-So is this a wall washer, or picture lighting, anything?

-Picture light. Directional downlight. Just to take whatever that is. There is cold light coming up through here. Connected to..., detailing along here; I'd try not to put anything else. [it would be] nice to make this glow (translucent panels)... Why translucent material?

-What do you mean 'why'? Why not?

-Well you know... you've no views here into the bedroom so that all it's doing is acoustic or its...

-It's basically semi-transparent for privacy 'cause it's open-plan, so you could see (through) if you're standing there. And it's because I wanted to have a variation of materials, solid, semi-solid and transparent. And because I think it's quite soft so... it sort of calms you down before entering the bedroom, it works like a lantern if it's lit...

-Ok. And this is solid wall?

-Yes it's [a] wall but it's also... this is thinner because it's translucent following there as well.

-Ah this is translucent so there is daylight...?

-Yes, daylight is coming through. So the whole corner is like that.

-Ah ok. Right. Is there a bulkhead across here?

-No everything is flat. It's only this wall that lower so that's why it's not thick (the line).

06:15

-Either you'd wash down this wall, or you'd light an object on that wall. So washing down the wall would light that volume. Or you pick out an object so that you're looking along here [and] there's something in view through, with then a downlight not lighting on to this. I mean it's not interesting. If you light it, it becomes opaque. So it'd be nice to play with the translucency by lighting within the box and also lighting on to that.

Here, (bedroom) then is about keeping the view out.

Max takes another look at the drawings detailing the bedroom, before making any decisions.

07:57

-What I'd do is... These cupboards aren't full-height, are they?

-They are, yes.

-They have to be?

-No. You can change it.

-Because what I'd do is certainly run it here a pelmet detail so... I'm just thinking what happens actually if you light the ceiling... You have curtains on the window?

-Ehm well, we're basically in the countryside so you don't need them but...

-Well I'd light it so you get a nice soft glow but basically it provides you a base level of ambient light. You would want within the wardrobe... lighting and the shelf lighting so that you don't need to light out here. The mirror is in this bathroom... Bedside lamps... This line across here it's kind of interesting. Can you flip to that?

Having a look at the model again. Some explanation. Max realises the dividing wall leaves a gap at its higher level and goes back to the entry hall wall.

-So that means what? That here is doesn't work so well?

-Unless it's mounted on the ceiling and it's focused a bit lower...

-That works. But the linear detail doesn't work. 'Cause it's not going to... sit in place. It's quite important what I'd do running through here, actually has a... continuity, because you're going to see it.

13:15

-What I'd be using here is something with a diffuser on it, so the light is quite soft, even if it's punchy it's quite ... so you don't get just a series of hard pools of light, but you're getting vertical light, particularly in terms of mirror lighting where the impression is soft. That gives the fittings much more presence in the ceiling rather than a dark fitting. I can live without being a different type, but that will make this softer, which then means you're throwing some light on to... Something you win something you lose. I'd come back and look at that again, but the key thing is the quality of light in space is meant to be good and if that means... then we'll look it with the architect and work out something more clever in here. Replacing this you don't have a ceiling light but... I'm not a big fan of lights on walls but... do you put a couple of ingrounds lighting up those two flanks or you put this... so you've still got something to view through...

-Did you put that to complement the quantity of light or... just creating the effects of those...

-Just creating the effects of those... because you don't want to light those two... if you don't want to light those two elements, if it's your choice not to... then putting something quite narrow will just create some pool of light and then you soften it, with the accent light on the artwork. But that's a different presentation to these (downlights). And it'd be really nice if you come in to get some sort of rhythm. And to see two different types of light and to see just one thing... to see three different types... is a bit too much.

-Probably yes.

-But I think probably you need more light than just this. So it's thinking up a way to get some more light in there without throwing a lot of light here. You're not going to see through here at all. It may appear solid... glow-y but...

So these shelves... are they open right the way through here, or through here?

-They are facing the bedroom two thirds of their height and the rest of [it, the] one third [left] is facing the bathroom. So it's like an 'S'. Probably you can see that I am sure there was a section here...

Making an explanatory sketch.

-If you want to see something you'd light up from the underside of the shelf. You don't want to light down from there because when you lie in bed, there's the potential to look up to it.

19:13

So you don't want something up there. You could pull the light further back into the centre, as long as you don't get it directly over. So the light kind of falls out of the shelves. It should be quite pretty but you wouldn't actually be able to see... it wouldn't be great for seeing what was up there! It could be right back so this becomes almost like slots of light. So like... you don't see the source... but you've got potential to get a lot of light coming out through there. So it's like windows. Because you have enough light in the room to see what's on the front face. So it would be kind of interesting to sink it kind of there. It'd be more interesting than lighting up from the front. Just on to the front face which is a kind of retail sort of presentation. I would stick light up here and knock it up. I like the idea of light coming out of the bathroom, from these.

Marking up in plan the same idea he was explaining in section.

-These cupboards are facing in to the bathroom?

-Yes.

-But they've got door on?

-I haven't detailed that. Anything you want... if you want to incorporate something there.

-We probably don't need any. Light from this will be sufficient. Diffuse light the mirror so... the mirror' there... soft light bounces off the mirror... and then softer narrow beam on the sink, again with a diffuser which gives you a bit of backlight on here. The key thing is going to be getting some light in here and here in this vertical detail.

-Linear or downlights?

-Linear detail to get vertical because the important thing in the bathroom is getting good vertical light. Here again ideally I'd do it with tungsten. A linear tungsten lamp, but you can do it with fluorescent; it's not so bad; but it's nice to have it warm and stick it on a dimmer. I'd put a dimmer right here. So then, you can set the light in the bathroom, so you don't feel so bad in the morning.

23:36

This, (the bathtub) I'd wrap it round the edge, is to play with that cove. Is it a curved ceiling or a flat ceiling?

-It's a flat ceiling but curved walls.

-Flat ceiling, curved wall I'd just wrap it round the walls again dimmable.

-Like a normal cove then?

-Yeah. So it's lighting down there. So it gives you a nice tuneable glow. That's about it isn't it? That must have spent the budget!

Closing down interview.

-Yeah it's not an easy space so [that] you [can] go: ah right, I'll try that formula!

-That's good then it means it was a success!

Max

PART ONE

-What do you think in terms of the lighting? How would you...

-How would I approach...?

-Yeah, would you like to keep a thought of it and then mark up and then explain, or do you want to do it at the same time with me?

-I think we could go through area by area ...First of all I do need to know... the overall size is quite (?) isn't it?

-I want your personal ...there's no limitation so you don't have to think about what I would like. I'd like what you would like for this specific space, so you're free in terms of budget ...there's no quantities issues that you should worry about...I'd like you basically to do whatever you think fits best into that space ...idealistic...

-So whatever I want to do ...so it could be anything?

-Completely anything.

-So I can say I want to do whatever in this staircase ...?

-And you can also say that I want this staircase to be thicker so I can .., so small alterations to the structure are also permitted because it's supposed to be at concept stage.

-And this staircase is open? You say natural, but it's a solid.

-It's...how the steps are, it's solid steps, but then there is a gap between them so like, the step is 10mm thick, but in between the steps you have gaps. I haven't detailed them very much yet. But if you want something to propose, you're free to do whatever you like.

-Let me think about it ...There's the entrance....so, first of all let's talk about this area, the first thing to approach. Some landscape as we enter... some lighting, uplights for the trees, it depends on the trees like, but if the trees are not too high, so we can use some LEDS just to light up.

-This is quite low shrubbery.

-Yeah, if they're low then we can use some ingrounds there just to uplight, but randomly.

-Do you want to mark your ideas when you're sure about them? To scribble on the drawing? Because the more, ... people normally mark up, but up to the point like, I'm putting some linear light there, or I'm putting some .., up to there, and then if something's not clear I ask them, can you just make a rough detail of how you would imagine that?

-Alright, OK.

-This is basically what I keep from them, they're sketches, very rough stage, and their speech ... and don't worry if you ... the more you scribble the best it is for me. Don't try to keep it neat or clean or anything.

-Some lights behind the vertical thing.... behind the vertical thing, so as people enter here there's lighting behind ...

-Ah, you want to silhouette them?

-Silhouette them, exactly. Maybe...it may not be on every single one, maybe on every second.

-Do you think it's too much if...?

-It may be, yeah ...but a very small light source, with a narrow beam. Am I going into details? Just to highlight...

-Just the effect – you don't need to write the wholejust for youif you want to, you can,if you say what your intention is and draw it on the sketch, and then you say it on the camera, it's there, it's recorded. I can go back to it.

-OK, I see. We have, this is a sky light. Skylight. I have some floor standing lights. Here some concealed bookshelf lighting.

-Can I ask why that is?

-Concealed behind the ...

-Why?

-It's to highlight the front of the book face.....

-Of the books, yeah.

-Fireplace, it glows on this arm, so I'm not going to highlight it. Some step light, some very soft glow step lights, there by the steps.

-This is for orientation?

-Yeah. Some general lighting because we have this dropped ceiling, right? Have some downlight over the seating areas. There's no TV in this room?

-Sorry?

-There's no TV?

-You can imagine a plasma TV somewhere.

-There's some downlighters over the seating areas.

-Are they narrow beam or wide beam? How do you imagine them?

-This? This would be medium beam. It would probably be too close to this library book shelf otherwise.

19:44

This clashes (with the division panels) would be taking away the light from (the books). Some downlights here, to the underside of the bridge, or it could be... that's option one, option two could be a very... there's a line of light...

-Why is that?

-If we have the bridge somewhere here (sketching).....that's the bridge just down there, right? If we have recessed lights there... so it spills the light to the two sides.

-Like a cove then? Incorporated to the underside of the bridge?

-Yeah, because it's quite a tall ceiling- and this is rather low down, that would do the job for that.

-And those downlights are for the upper side of the bridge?

-Sorry, downlights? The downlighters?

-Ah, option one or option two, OK.

-But option two would be the linearI actually like this one better because it does throw a bit more light to this bit, into this area

-The linear thing?

-Yeah. This is a solid wall, there's a solid wall, could add another cove lighting in here just to backwash this wall...

-Do you want to do a detail of that?

-(sketching).....It would be something like that, So you just get some light on that back wall here, because you have a sky light here, right. Don't want to be too closewe can't let that be allowed, because that's too close to that back wall, but during the day you have plenty of light and then you have some ambient

22:27

light and then you have some task light here and I'm putting some task light over here as well if this ...It depends on whether it could be a table. Task lights. Well we could also have somecan I move the sofa a little bit so there's light behind this seating ...?

-The same, similar detail wraps around?

-Yeah, the same detail wraps around, but this one would also have additional light on the ceiling like with this one. This one here ...there's a sofa ... here, so that's...

-Is that because you have the sky light on the ceiling, or is it because you wanted to have something linear there?

-Well, ideally I do want to carry this through, but because this skylight is too close to this back wall and I can't have ...

-So if it wasn't there you'd just carry on?

-Yeah, I would because I do want to define this back wall here because at the moment you have all this shelf light. So this is another clumsy area. Another thing is the steps here. What's this line here? That's the upper floor isn't it?

-Yes, it's the landing from ...

-Ah, so if that's the case, there should go... So you get spill lights there. The skylight's here and just another cove light there as well.

-And I guess it's something like this.....why is that?

- Just to give a gradation of light and define this curved wall here as well. Do prefer things like concealed, they can't be seen, than any actual fixture I feel, as much as possible. This is a work bench, isn't it? Or...

- If there is any connection between

(25:22 indistinct speech)

Did you choose it, you could, you could just do it everywhere?

-With this one, no, but this one, yeah, I do want to highlight this wall here and because I think this wall could be interesting materials as well because we have this void space as you walk up you want to see this as a feature I'd want to highlight this ...here 'cause I'd want ...this is a bench, isn't it?

-The dimensions are a bit confusing... It's a free space.

-It could be a...Because this is a work space...

-I haven't put any furniture on it. You can imagine your own. I didn't want to do it because people would just go and put lamps on top of the furniture, so I just left it for free arrangement and you can imagine that the glass might open in summer time and you could just put all your things on...

-Oh, yeah, you have the glass bit here. What's this line here?

-It's a small low ledge...

-OK, yeah, right, I see. I think its fine to have a (?) here, which is OK. We do have a ceiling here, right, don't we.....It's very tall.

-It's very high.

-It's very high, is about 5 or 6 metres.

-Five metres. And it continues there.

-So we can have ... it's too close running this... or else we could have recess light in here, like a linear light.

-Long ones ?

-Yeah, so you get...

-Stripes in.

-Then you have some.....get on to here as well, so if that's a task light...

-Which one do you prefer?

-I do prefer, well having considered there's a work bench, I do prefer the linear one and that would provide sufficient light on to the staircase as well and give it a frame.....and then you could have a portable task light. Get rid of thatvertical linear strip. We can get through here to the kitchen or not?

-It's narrow.

-So the only way is to get ...

-That's an exit door and that's an exit door.

-So we have some task light over the bench...

-How do you imagine it?

-Erm, like a linear with fluorescent lamps... just to the underside of the kitchen cabinets.

-There's noit's only low level cabinets.

-Oh, there are noright, OK. So we can't have any task light. So they'd have to be ceiling mounted then....or suspended ...but we have already suspended this bit hereso we can have it in here, this can all be different sizes and shapes?

-They are all different sizes, yeah....just need to detail whatever you want, OK.

-Right, there's a kitchen, there's a I wonder whether to put some pendants- a bit too messy - We should keep it clean. Emm, I can extend....there is a dropped ceiling here so we can have light, so it's like a floating ...

-Like a profile with down lights, is it?

-Yeah. That's the backing bit. But this edge is also wrapped around, isn't it? ...there's some light there, so if that's the case, ... again clashes with...thisLooks like a real job.

32:44

-Only You're free to do whatever you like.

-We extend this wing as well so that it gets balanced plus that.....We'll have somelight, linear pendant light. Very linear pendant light (sketches the pendant) This is the bench. Some uplight as

well around here (planter in the kitchen yard). Like a ring of light, strip of light. You can have ...this somehow (sketching)

-It's inside the garden.

-So, you're looking here, you see this glow.....this is on an angle and it's also lighting up the tree.

-But this is likespike-mounted light. Is that linear?

-No. These are linear. That's the idea. I want to have the same in here and here, so that is all consistent, the ring of light, it's like a sculpture. So you carry through the niche light in here. You could have a fountain...-Like a fountain of water. Wall mounted one.

-You're starting to go crazy now. So it lit from the side...

- From the side, yeah within thereand its all green here, right, could bewhatever, like a Japanese style with all the pebbles here. So what about here?

-Small stones.

-Carry through something like, well a wall. We'll have to work out the patterns. Recessed into the wall on the one side, we'll have to come round here as well, so it's more like a back garden.

-You could skip it if you want.

-A barbecue would be nice. We could have some low level lighting to one side , so there's a low level wall, it's just to give it more like a (38:00 moves on to plan of upper floor) On the top floor we have the bedroom, so we have this one ...that's downstairs, so coming up here, so we have this continuoustranslucent light.....We put a cove light back here, cove light here, and then...

-So that's on the ceiling?

-On the ceiling, yeah, on the ceiling.

-So this wall is low level and this one is ...that's the windows.

-This is two meters, and then that becomes higher ...

-It's void, yeah.

-This is void....this is void.

-No, I mean (39:43 showing on computer) It's a bit complicated, it's true. So like, this wall thing is up two meters, and the ceiling....

-Ah, It doesn't go all the way up ...

-No, it doesn't go all the way up, only the wardrobe is full height.

-Only the wardrobe is full height....and the rest is ...how high is it again?

-This is two eighty.

-Two eighty, oh I see.

(40:15 *thinking*)

So I'm keeping the light onto this wallRecessing to the wall, so if you hadthat's the ceiling, there's light in front there,

- Oh, OK. So, like a hole, with lamps in and then a background?

-Yeah. With like with the diffusers. Well some concealed lighting in the cabinet into the closet.

PART TWO

-Some shelf light behind the backI mean for the back, just to give a bit of silhouette, but not to (unclear) the bookshelf, otherwise....

-Just one or the other, then, either desk light or the shelf lighting?

-So there's shelf lighting at the back, but then there's the task light to the side for each...

-How would that...?

-This one?

-No, the shelf lighting.

-The shelf lightingwould beshelf, shelf, shelf, so it would be

-Cut outWhat is this bit here?

-That's the wall recess; it could be a task light sitting on here. This is a wrap around thing. Oh no this isn't a wrap around...

-No, it's not. I just put it as a bedside table.

-Then just have a luminaire there. The ceiling is quite tall, have some more light at night.

-Just to point out...

-Oh yeah, it's not too tall, they will have some ceiling lights there. I'd rather have something in the middle just to point the eyes. There's a sky light there. Put some light just round this edge here. So basically there's the wall, there's a half-cup, we have to put some light there

(02:35 sketching, indistinct comments)

You have this light, basically I like it this shape...some light over the basin...

-Downlight is it?

-Yeah, down light.

-Narrow beam or wide beam?

-Narrow beam. And then we have some side light like a strip light just to give a bit of threshold illumination. Light coming from the side... cabinet with door?

-Just plain cupboards with doors, yes.....There isn't much detail.

-Just downlighting. And that's it.

03:34

-OK. Can I ask you some general questions, then? So you chose to up light those fins here, but you haven't chosen to complete that on the continuing ones – why is that?

-Ah, here?

-You just thought this was good as an entrance feature?

-Yeah. Because I just want to highlight this as an entrance and this we had the low level light that it was already giving like a corridor of light. This light here would already give this as a silhouette,

but this....I just want to be a bit stronger as a feature, mark it as an entrance point. And this (workspace wall) just to echo this here (fins)

The stripes are echoing that one? OK. And do you normally...When you get a scheme, do you approach it in the same way as you do it now, like area by area? Or do you have some general thoughts first?

-Well, normally, I will look at the geometry of the building – what's the element..is the predominant element....say it's a curve, or it's very rectilinear, if it's very rectilinear I would tend to keep it very clean and minimal; and probably would use the linear line of light to echo the architectural elements, that's how I would look at it at first...and then once that's defined, I would tackle area by area I would look at how each area will have the general lighting...and where it's needed for the task lights as well.

-So you then focus on the functional part and trying to solve this by ... OK, yeah. So you first decide on a general strategy – if it's going to be concealed...concealed lights or modern or it's not and then you go to an area and then you decide based on what is needed for the area. So for this building you think it's the concealed lighting as you said.

-Yeah, I think so, yeah, as much as possible.

-So, if we summarize thatthen you did quite an obvious gesture here, with linear lights or light stripes which you prefer probably because they echo that...

-Yeah, because I just want to have some kind of feature lights here, 'cause this is a big area.

-So this is the one you focus on for your featurethen I assume that the low level wall lights you put there is purely for function, same as the down lights and you also have the idea of putting linear light on the bridge, wrapping around there instead of the down lights which iskind of you followed there. Also linear solution there and there. Is it because you didn't have where to put them, or is it because you wanted to put something linear there?

-Well, first of all there isn't other area that I can put them, that's why I introduced this one here because this one you see is kind of the focal point for this kitchen here and I don't want to drop too many things except over here, that's why I drew this very fine line here, and then the others, justattached to this....dropped ceiling

-And the same happens for that area? You've doneyou're not able to put anything on the ceiling, so you've chosen the walls for positioning your light sources.

-Exactly.

08:20

-Let's see upstairs....a bit down lighting function and then something integrated. You have your linear wall thing.

-But it could be nice if this could be transformed at night time. It could be colour as well. Because during the day time you have the light coming through. At night time you could sandwich another light source. You can transform to different colour. That could happen as well, something like that... Just to give a bit of ambience.

-The other thing you said about the ambience, do you think when you're deciding, do you think of it as the base lighting and then you put the accent, or do you think of them at the same time? It's not very easy to say.

-At the same time. It's all like 'jump-in'.

-It cut itself very clear I think how you were definitely deciding both things at the same time. OK, I can't think of anything else to ask you. Thank you very much.

-It's interesting to see how different people approach the same area....

-Yes, it's very interesting. That's what I enjoy about this.

-Yeah. But you made up all of this layout. This is a very well-developed layout.

-It took me months to do it because ...

-It looks like something that it can be built.

-It has some parts which are not very functional, like the very high ceiling – it makes it more expensive for residents and it's not very well accommodated so I doubt someone would go into building it for having only one bedroom and toilet. But I had to do something... As someone said – you imagine having a party and then going to the bedroom to visit the toilet. It's not functional, definitely not – but it had to be solved until the last detail, because people should engage with that like as if it's a normal project, I had to do it like this. But even though there are still mistakes, I can't bother any more. So is this like things you normally don't do, or is it you processed it as a normal project and then you found realistic things you could do?

-Sorry what was that?

-Do you think you've gone a long way from what you normally do, or do you think this is a fairly normal thing you do on every day projects?

-It's pretty much, yeah, like what we're given, having the 3D drawings, sketches, just looking at the architecture of itThen we just come up with some ideas for our supporting image to show them what our concept is.

End of interview

PART ONE.

Small talk for opening of interview. Talking about architects in the lighting design profession. Giving the brief and discussing on the scenario.

10:58

-Because I never do residential lighting. Because... I don't like it.

-You don't like it?

-...and I don't like it because then you get into people's preferences. I mean personal evaluation of what is nice, beautiful or not so beautiful. And then you start to fight between what you...

-Ok this is your personal belief ...(Imagine) you're in this ideal world; there is no budget and nobody...

-Nobody can say to me I don't like this. That is the main reason why I don't like residential lighting. You are supposed to do really what people want you to do. So you're not expected to put in your own way of looking at things, because it doesn't matter. People who live in this space don't understand it. What is the point? Even if you make a beautiful lighting scheme, if they don't feel comfortable about it, if it is not their way of living the space or understanding or whatever... it doesn't make sense. I always avoid (them). Because I don't want to get into this fight of what is good for them... I don't like (it). I'm not expecting them to like it anyway. But I'm not expecting to do something that I don't like either.

-It's good if you have a choice, yes. I like that.

-(To) this kind of (projects)... I always, always say no. I've never done it in my life. Then if I look at this as my place, then I don't have to argue with the people who are going to live here... just trying to understand the architecture. And trying to follow the architects' concept for this specific space. Just like I do, when I do lighting strategy or monuments or whatever. I just have to understand the object and make it clear to other people. So here I have to understand what is the concept, really. And you talked about this... main thing (the corridor) that goes all the way and then you have these (fins) that go up and down. And (that) somehow is the element. It's this. This is the two things that I saw when I look at this first.

13:21

-It's like breaking this long corridor, as you come in, into panels which also give a semi-privacy between living space and working space. So you have a visual contact with the working space but it also divides the functions that take place.

Explaining the uses of spaces...

18:35

-First thing is getting the sense of all these. Understanding your concept for this house. You have this main element which crosses the house from the one side to the other and that is something that should be reinforced. And make it clear, that this is the element where from which everything is articulated. And this kind of way of dividing space should be emphasized because it's part of the structure of the house. So I would have for sure light in there. For sure and create here...

-Following all the line.

-All the line... very small. Just to say I'm here. Nothing to have any kind of upright or whatever, but to reinforce the position of this element as a way of dividing the different spaces. Then I would have to think, 'where', 'how' and get into detail, maybe it's not in the middle, maybe it's there. Maybe the asymmetrical way of putting these recessed dots can emphasize this way of understanding these two spaces. Then I would have to start to think how to do it. As soon as I decide about the main lines in structure of the lighting, you have then to decide, to go more into detail and see if it works better if we don't take a little point for granted, you know. I never like to take things for granted. I like to explore other ways of creating a perception of the space: and maybe it's not in the middle, maybe it comes all this way, maybe it's even... it's even... where is the

(perspective)? Here, maybe it's there. You know when you are walking you see the dot, ok? There. On the panel. Exactly on the panel. Maybe it's more effective that way. Because you are walking and you just see these. Because I can not create a barrier, because the barrier is already there, but I have to identify it somehow. So then I have to explore ways of marking this element.

-So you want those to be clearly visible

-Yes, clear... not visible. Visible means I'm having light all over it and the idea is not to have light but just to say 'I'm here'. Yeah? So whatever it is, it has to be very subtle, but (one) that gives you this... tells you the story about this in a clear way. An maybe here I'll do it differently although it is the same story, but it is exterior lighting because it is external area, so maybe here the dot will be in a different position. So sometimes you have to adjust the solution, the concept to the site. To the meaning of things. Because here it (the corridor) has the same function which is dividing areas. Here... you can understand this is in a different way because this is exterior, this is inside the house so maybe the solution is not exactly the same. Although it has the same idea behind, the concept it the same but you can always make adjustments to make the thing clearer.

22:38

-Would you imagine (this) to be on the floor, on the panel, like a circular source or...?

-Yeah it could be. I would have to explore that. So it could be either recessed on the floor or just on the panel. (sketching) We have the panel there, like this... and it could be there. Or, if you have another panel, it could be there, there, or instead of getting it to the middle I can push it there, or I can have it there. So when I walk I see it easily there and then there. I don't like the idea of having it in the middle at all. Because I'm going to create a second barrier. So people will have some difficulty in having the transparency would be a bit compromised. But if I put there and there, I just give the rhythm of this and I'm not compromising the element itself. I'm not competing with the element. Sometimes the obvious things, like this, will not work; it's obvious because it's what people tend to do. You need sometimes to explore better the perception of introducing such an element in the architecture. How much are we competing with the architecture instead of making it clear? And there is always the temptation of competing. I like subtle things, so I don't want to compete, I want to make it clear and if I can be very subtle and very... very subtle. It works much better. So I would go either for this or for that. So I would have to explore which works better. But here maybe I would go for a different kind of solution (entrance corridor). Still with the same concept, emphasizing the presence of this, what do you call it, element? But maybe it's not so relevant this anymore, so maybe I can play around with something else, but still with the same idea. So this is quite a good example of how you can be precise instead of coming here and go bah-bah-bah... it's done! Usually it's how it happens. If you want to produce an effect you have to explore the impact of such a thing to the perception of the space.

So I like this way of playing around, it emphasizes this. So I would have to combine this with something that starts here and ends there. To give me this corridor really... the perception of this tube... you talked about a tube... this is a tube... So these are just two elements of the tube but I still have to emphasize the tube. So maybe on the ceiling I would have something that gives me this idea of a long line. Ok? The only thing that is uniform along this is the ceiling. It's the only uniform thing that you have here because here you have these breaks, those things there, doors, blah-blah blah-blah... floor is not obvious because you are moving like this (makes an 's' move on plan) so the floor doesn't make sense. So the ceiling is the only platform that goes all the way in one go. If I want to give the perception of this tube I just have to take the ceiling as my element to give support to my light, in order to really have this (makes a line move along the tube). So maybe I would have some recessed dah-dah dah-dah, all this way and I would try to find a kind of metric here so the fittings are not there just for the sake of whatever. So I will find a nice distance in between and according to that I will find the source.

27:10

-But the fitting will be aiming on the floor or (will it) be more direct...?

-Will be aiming on the floor maybe on a very diffuse way not really spots, but really diffuse to give you the sense of tunnel... tunnel right? Which is broken by all these events visual events that you create in order to break also. Because this tube is broken; to have access to the different areas, so in a way it's combining these two things: having a long tube and sometimes create all these visual events, which are already here, and combine these two things. It works because you don't get

bored with this but at sometimes you emphasize the importance of this tube. So in the end is playing with the architecture and make it clear and not break the structure of the building because otherwise what is the point to do it? This will be my main... my strongest point for this, I think. Where is the section? Because here you have this and this, right?

Applying the solution to the section too and repeating.

29:09

-Then I also like... then I have all this space... this is... I'm very suspicious because at home I don't have any light at all. I'm sorry...

laughing

-You walk with a torch?

-Almost! I have very little light. It's the way to find piece when you don't have too much lights. Very little light... you can not read there for instance. Not enough (is) the light to read and... ok there is one that you can sit on and read... but that is not really the purpose. Everything is very subtle. So it's very difficult for me to somehow create a sensible kind of light that people would expect.

-It doesn't need to be sensible... whatever comes to you as a feeling of (right) space. How would you light it, if we were in an ideal world?

-The second thing that will be important for me is the outside. Bringing the outside to the inside. Because you have all these long windows and the impact is very strong. This means that when you are there (kitchen) it's more important to be able to see this than to be able to... whatever. Ok, this is the kitchen and you have to perform all these tasks. Fine, but still here and... where is it... here you have a window, right and... working space. Here there is a window....

-There is a rooflight...

-Here it's on the top. So somehow in these kind of situations I would have light more outside than inside, so the space will become bigger and more comfortable. One thing where to look at. And I like that; usually I tend to light that for sure. The ceiling here I'm not so enthusiast about this. It works by day but in the evening I would ignore (it) I think. I think a lighting designer would have here blah-blah, ceiling, changing colour and things like that. I wouldn't go for that. Not at home at all. At all. I would ignore this somehow I think. I don't like uplights... I don't like... I prefer to stick with the structure of the building to find my way and to understand where I am and the connection between different spaces. That's how I much more prefer to deal with this kind of situations. Which is something that nobody will like to have it as a way for their own... for people's life. They don't know how to deal with that.

There are always tasks that you always have to be sure about them. Kitchen is important. You can not avoid not having the right light there and the right light there. You can not avoid that because even I have it at home.

Laughing

32:45 -Downlights ok? It's just the right amount of light there and there and that's it. I don't need more and you can see and do whatever in the kitchen because you have the right light in these kind places and it's ok. No need for more I'd say because it works at home.

Fireplace, ok because it gives you light and I like that but it's only in the winter. Sleeping sitting... I mean... Maybe I can get something more like an object that has light in there so I have an object and a light so... it's two things together. It's more important than to have a lighting system that you can control, dim and do all these crazy things. I'm not very fond of it.

-Why?

-Because you end up not to play anything. I mean people arrive at home and just want to have some peace. I'll have one more or two more commands to work out dimming this, this and that. I'm very basic about this kind of things. Very basic.

-When you say an object this will be like a floor standing lamp?

-Yeah, yeah. A sculptural fitting, yeah.

-Something like Japanese paper...?

-Yeah. Something that is an object, part of the furniture and you look at it. By day you don't even understand that it is your light source for this specific area. So it would be something very integrated with the furniture and special I would say. In most of the spaces I would go for that because it's the way really I tend to light these kinds of places.

Ok, bathroom is the same. You need to perform whatever. Where is it? Bedroom is here but then you have the bathroom. Ok usual stuff. Whatever.

Finding her way around the bathroom area.

So I would create a two-and-two, three-and-three thing. So that you have two options. Because this is two kind of spaces. So you have two options of having light or not having light. Maybe something... I will need to see the furniture and get more information. To get more precise about the kind of solution. But...

Showing the 3d model of the bedroom/bathroom area.

37:24

Yeah, you have to have light to perform this kind of things, so I would find here a very basic way of doing it with downlights and it works and you don't need to be very posh about those kind of things. I like basic things at home. Otherwise it's too painful. It's too painful to deal with all the technology. I'm suspicious really... I don't know.

-So you would go for downlights there, controlled in two different...?

-Yeah, downlights ... yeah two different... because there are two different spaces.

-And you put something in the bathtub or is it...?

-No, no I'll leave it like that. You can play around with the LEDs and blah-blah but... phhhh... It's not really so much my way.

-You wouldn't so something for example for the guy who's sitting on the toilet and reading?

-Here, here with this light is enough. Four points. It's enough. Gives you more light than...

-I like the fact that you divided the... you saw that there is a link with that space so you divided it in two parts.

-Yeah because he may be going to wash his hands...

-And he doesn't want anything else...

-And so why would he spend money with energy having with this on? I would divide this in two, because it is divided. I don't divide. It's already here. I'm just following as much as I can the areas that you're identified.

-When I was designing it I didn't realise it's basically two different areas...

-I might play with this wall...

-I only put this wall to give privacy so that... you know.

-Maybe I'll play a bit with the wall and have something here...

PART TWO

Thinking

00:27

-So in the end I would stick with the architecture as much as I could and not really bring too many things into the area... into the space

-Ok so you have this treatment for the bathroom, anything for the bedroom or the entry hall? I don't if this is very clear, how this is...

Explains once more the design of spaces in the mezzanine level.

01:38

-No, I don't like rigid systems like the one we have here. It's here, it's here, we can not move them around. I prefer things that I can move around.

-Like tracks for example?

-Like... you can plug in and move. Uplighters... whatever. You know...

-Eh... floor standing...?

-Yeah. Floor standing. Because then you can move things around. Otherwise the bed has to be here all the time. Things have to be where they are. And I like to move things around. If I move things around... If I have this system, bah-bah bah-bah bah... then either it has to be very uniform that it won't matter or if I have to be very precise that mean that the bed really has to be there.

Agreeable input from interviewer

02:30

-So either you make this, cover all this with dots and then it doesn't matter where the thing is – but then it's boring – or if you have the situation to do with the furniture as it is, then if you move it around, it doesn't work. So I like floor standing things so that I can move things around. That's how I have it at home anyway. And that is more decorative lighting than anything else. We need to have a lighting system. And I need to have also things connected with the furniture, so maybe inside, the system is inside the wardrobe, maybe there are some shelves here. The system is built inside the shelves, so (I'm trying) as much as I can (to) put the two together.

-Incorporate them...

-And really not have things in the ceiling... visible, yeah. Then if I want to create a really nice kind of 'angle'...

-What do you mean? Ah 'visual angle'?

-Yeah, visual angle. I can have – maybe when I walk here and if I want really to...- maybe I can have on the ceiling something like this. Three dots of light. But then it doesn't matter because I am having a visual... It doesn't matter where the bed is. Because this has to do with the architecture. With the space. Has to do with this viewing angle. Not with the bed. So, it doesn't matter if tomorrow I decide not to have here a bedroom but a working space. You can change the function of the spaces. It doesn't matter any more. So, my solutions always have to do with the architecture, not with the furniture. The furniture moves around all the time. Imagine that this is a child's room. Then it's not a double bed anymore. Then the bed is not here, maybe it's there, maybe it's there. So if I always connect my light with the architecture, it doesn't matter which kind of use I have in there. Then the use comes in and the light comes with the use, but the light of the space is already there. It's part of the space not part of the bed. As it is here (corridor). Part of the architecture. Part of the different elements, the different bodies, the different volumes. More than anything else.

05:00

The interviewer prompts Nicole to respond to lighting integrated into furniture and a discussion begins about working out the furniture and considering the users needs and preferences. Reading on the bed for example. States the difference of lighting a hotel room which is intended for different kind of routines. Then the interviewer asks about the danger of obstructing the view out when putting the three downlights on the ceiling along the viewing angle and Nicole responds that it depends on the amount of light. It is meant to give the direction only and provide some basic light for way finding around the room.

07:11

-It depends on the amount of light you have there. You are just giving a direction. You are giving light to the room ok? Of course with this light you can walk around the room. You come in, these light are on, you can walk around the room.

-That is not very glary...

-Yeah. Just small... It's not even a recessed fitting. It's a recessed lamp. Very basic. Very simple. But it creates this... well the possibility to approach this area, to go to the bathroom without any extra difficulty. Ok?

08:09 So working space: well it depends where the things are. Things (light) should follow the furniture. (Things should) be connected with the furniture not with the space, otherwise you get this kind of solution (regular array move) which means it doesn't matter where the table is.

-Well, again with the office furniture it will happen more often to change it around than the bedroom...

-Well not so much because here there is only one bedroom so you don't have so many options. Right? Still thinking that this is going to stay a bedroom for ever, I still like the idea of having this area somehow defined by this angle viewing approach and then work out if it has extra light for reading and it would be more than enough. No need for extra lighting really. Then, here we'll have light inside so you can see what it is in there, when it is closed it won't affect the bedroom and that's it. Here, I could have a floor standing luminaire that I can play around if I am having a sofa or not. And I will make it very flexible. Very flexible.

-So you'd rather have many sockets around the house and move it rather than have lots of fittings?

-Yeah. Rather than having lots of power things on the walls and on the ceilings and putting things, god knows where. Yeah, for sure. You know I can live... my house is ten years and the thing that you have in the middle of the ceiling, where you are supposed to hang whatever, stays ten years without a single lamp. I never use those points. Electrical points. Never.

Discussion continues around the use of mobile luminaires for reading and other tasks in different corners of the house. Nicole states that she likes to read with natural light and goes to bed early.

11:23

-I prefer that flexibility than trying to cover all kinds of situations with the light. And then it's such an amount of equipment... Because you have to consider: if you are reading, if you are standing up, if you are eating, if you are doing this, if you are doing that. Each of these tasks demands a kind of... having your lighting system working. Of course you can have a very sophisticated system with all these controls... Lutron controls and dimmers that come in and out. I'm not that kind of person.

Expresses general opposition to using high tech light controls in residential projects but not in more complex projects as these involve another kind of thinking.

12:38

-I would stick with the architecture, as much as I could and with the tasks that I don't have any way to play around it. This and this (bathroom and kitchen) I will have to make sure the things work. Apart from that, it doesn't matter.

-Would you propose anything for the circulation area of the stairs and the bridge?

-The bridge. Is this glass? I think you mentioned something...

Showing the 3d and explaining the make of the bridge and stair. Nicole asks about the balustrade in the stairs. If it is solid or not.

-So maybe I will take the wall for my lighting. So it gives you support and I would recess on the sides.

-Like step lights?

-Yeah. So I would stick with the architecture once again.

-And you said that you would light the exterior so that you can extend the space...

-Yeah. Especially here, extend the space, make it... you know. Instead of having a dark hole

-Like... lamps on the trees or...?

-Yeah, yeah. Recessed on the trees. Definitely the tree is the important element for this kind of situation. Here there is no tree... there is no...no... And there (back yard) it's not so I would create a kind of nice... I would try to take advantage of something that I would find out there. Maybe in the further distance. It depends on the material. Sometimes if you have a wall which is really with all this texture... I would have the wall completely (washed) with light.

-Would you wash it from...?

-Recessed. Very-very close to the wall so that we can create strong shadows and we could play around with it. So I'll bring nature in to it instead of having a wall very clean very white, very everything. I would create something there.

-Can you try a detail for that so that I can keep a record of it how would you...?

-So, if the wall has all these stones (sketching), I don't know the size; it doesn't matter. But it gives you the opportunity to somehow create kind of interesting shapes, right? And if the light is recessed you can have really strong shadows, it creates a nice panel of illusion. And this is nice. Because...

-So, at close offset then, going up?

16:09

-Yeah. Very close. Section. Ok? It's very close, ok? So I can really have the shadows.

-How you describe this effect to a client for a example. Are you using metaphors or are you giving them visuals in order to show them how the effect would be, if you were about to communicate this to a client?

-I would show them a picture that would give this kind of feeling. I mean they are so easy to find.

-So you don't have a name...? To differentiate between different effects?

-Well it doesn't matter having a name because the client doesn't understand names and codes and this kind of things. If I say 'modelling...' they don't know what that is.

-To your colleagues? Do you work with other people or is it more projects you get on your own?

-What do you mean? With the staff?

-Yes. Like 'here we'll do this thing and there we'll do the other thing'.

-I tend to explain; to make sure that people understand what we are talking about. But it's better to explain than to get very technical about it. Because the point is not to become technical. The point is people to understand what you are aiming.

-But are there technical terms you are using? Obviously they are going to be in Portuguese but...?

-Yes. I mean the same as we all use: uplights, downlights, very close silhouette, with strong shadows, diffuse, contrast... we all use these kind of words really to describe

-Because I found out that people tend to have very loose... because they would use one term for...

-Almost everything?

-...two effects. Like they use the term 'wash' for two or three different effects. I'm not sure how they mean this 'wash' from the other wash. Because something can be at a close offset. Do they mean 'wash' by a certain...?

-I think it's a bit intentional when people don't say too much. You are talking about people at the conferences. When people deliver a conference about a project. I think you are talking about that kind of situation. Are you talking about projects you do at the office, or...? In which situation are you talking about?

-In the office work. When you have to communicate to colleagues.

-To whom?

-To colleagues basically, because as you said, the clients do not understand anyway. They don't have experience. But your colleagues do...

-And why do you have to talk with them?

-So that you make sure everyone understands the same thing.

19:00

-Ah ok. Then, as you don't know if they understand all the technical staff is better to make sure by explaining what it is. Because if you say 'silhouette', we are not sure if people know what a 'silhouette' is. So you just have to say 'backlight'. You put the light behind the object, then you see all this... So you explain it; to be sure that people understand what you are trying to do.

Repeating.

-And if you say 'uplight', it could be there or there; the effect would be completely different. So you say, produce strong shadows and that means the source has to be very close to the object. Otherwise you don't have strong shadows. So you have to explain...

-Being descriptive, then.

-Yeah. Very descriptive.

Based on the above the interviewer is wondering if there are effects that need further explanation. She then asks specific questions on areas while summarizing the proposed effects. Finally she asks Nicole if she has completed the scheme and is satisfied with it.

22:22

But if I can take also the exterior, I still like to reinforce this (the corridor) from the outside. So I would do something there. And that bit there. These walls are important for the understanding of this building from the outside. And this tube. I still get the tube as the main thing. Even from the outside, if somebody is approaching this house I would reinforce this volume. That's it. From the outside so when they get inside, they know where they are because they already have identified the volume from the outside. There is a connection between outside and inside.

-I guess something similar to this? At close offset?

-Yeah. Yeah. But a bit wider. More uniform.

Nicole

-Wide in beam?

-In beam.

-Hem, that's it then... I don't have anything else (to ask).

-It's half past twelve. I have to go anyway.

Laughing.

PART ONE

Briefing takes place.

15:00

The thing with housing is the way in which you move from space to space. And there tends to be a sort of general flow. So it's not like an office, commercial building, where you tend to have lighting on all the time and you are moving through a lit space which you create. What I feel for housing is that you actually move through the space. Part of the space planning is to look at this sort of distances that you would travel to and from particular places. And there is a function there in looking at the lighting in a similar sort of way. Because the kitchen lighting might not be on if you're sitting down here (entrance seating area). Or over here reading (library). Or over here working. The chances are that you are working during daytime; when you wouldn't have the lighting on anyway. Perhaps except for areas like this (living) where you have no daylight.

16:22

He studies the daylight appearance. Where light is coming through from which openings. Rooflights, windows. Finds the middle living area as a dark area during daytime and says he has to balance the brightness patterns with the adjacent areas.

17:27

Sitting from here, (workspace) looking across this space, you are looking at something dark. There is your dark wall here as well (library wall). That could be disturbing if you're also looking out there in to brightness (workspace window) and then looking out there to darkness. So you want to balance that up. So during the daytime, you would want to be able to do something in here. (squares middle living area) Probably something there against that wall and this sort of raised section here. This would be another way of changing the brightness patterns. Which gives you something to look at which isn't something unlit and therefore dark. So that would be my initial thoughts for daytime. I think you should be able to work quite comfortable in here and that height is going to get you light all the way through to the back here and that's going to be augmented (staircase volume). So that is going to look quite nice under natural light.

18:37

Now at night time, what you are doing there is you're coming in. Now we are going to be looking at a story. What happens (in here)?

He begins with the workspace and considers issues of high reflectance of the glazing in the workspace and resorts in putting blinds. He then goes to the skylight glazing and applies the same solution i.e. a roller blind which can then reflect light back to the space. Takes the section of the skylight and draws the detail, decides on lamp and positions. Struggles between decisions for symmetry or asymmetry and decides to add downlights on the empty side of the skylight plan. Works out a better shape to fit the room's ceiling; a less squared one, more rectilinear. Defends a more central position of the skylight in the space when prompted to justify his move. Erases and starts again.

25:30

-It may be that you have your indirect lighting along those lines and then you start to put in wallwashers or things here. In that sort of zone. Along that edge there.

25:50

Works on the details in sections.

26:15

Thinks about being able to direct light on to the walls for hanging artwork. Reworks the detail and adds spotlights. Draws beams of spotlights along the main wall. Continues on to the side walls as soon as he realizes it's possible to do so. Goes back to the detail of the skylight drawing. Concludes

on the fluorescent tube and the directional spotlight and specifies the blind material transmission factor to around 30%.

28:40

He studies the possibility of adding some low level lighting in the corners. He identifies three types of lighting components for that seating area: diffusion, wall washing and low level lighting.

-But what I should do is go back to where I started. Coming to the space you want to see people out here (entrance). And preferably that threshold should be brighter than the entrance hall. So you're looking that way. The brightness here might come in that with the light spilling out. My inclination here is that if you're looking that and people are standing here, what we should be looking at is using this wall, which I think is fairly tall, isn't it?

-It's 3 metres.

-It's this one yeah (checking at drawings). So we've got room here. The door is here isn't it?

29:45

Looking at the elevation and identifying the volumes in projection.

30:05

-Something in that wall will be interesting (thinking aloud). There is that sort of temptation. Lit threshold for say this is a nice strong element (fins) and why don't we put something in here to make it interesting? But it is a whole series of open things. And I think if I was going to do it, I would sort of do it as like in an announcement. And maybe there's the scope to do just one little one there to give you a pool of light. And then...

-That's downlight or uplight?

-Probably as an uplight I think. I don't know. It might be easier to conceal it there. Here I think I might want to look at something which I would then have recessed into the wall. And because you have big slots there I might put on the wall (the solid one) as couple of slots to give me a lit threshold. So I've got a vertical element here and here.

-Can you elaborate? With the 'lit threshold' what exactly do you mean?

-Well this is your front door and this is the threshold (marks an area adjacent to the door). So when people approach they will stand here. So that's where you want to sit. If you're looking out to the door you want to be able to recognize (them). Do I open the door or don't I open the door? There's always that security feeling. That sense that you can see people and therefore you need to light them. And what you really need to do is to be able to sort of light their faces as they're standing in the front of the door. You need to see that bit lit.

32:25

Now in this there is no roof on top of that...?

-There is roof. It's like a tunnel

-Ah there is roof. But I wouldn't use that. I wouldn't go on into the roof. I think it deserves something slightly better. What I'm saying is there might (sketching in perspective and thinking). I'm coming to the door with the roof over the top and here I've got there things happening. That I'd put in a linear slot. What might be interesting is to look at that and go: well if I did that I could actually light these things off the wall opposite. The distribution of that will give me light up on to the ceiling, it would give me light across there. I might have to be careful about how I dealt with that. Make sure there was not too much glare. So that when you're standing in here, I've got light on to the face, light on to the background, light on to the whole thing. I've got some reflected light off here and also the light is picking up the edges of those vertical elements there. You may see I want to see that as a clean wall, uninterrupted.

Because my other inclination would be to put something like Ronchamp. You know, little window with dichroic glass in it. Or even a glass block with colour. But that may change the whole thing; if I did that.

The other option of course if that was not... would be to look at doing something along that corner. I'd keep it out of the way. I'd just run something down there. Now whether I'd do that as a continuous diffuse light source or whether that element starts to break down to individual points...

What I'm trying to see here and do is to try to keep that sort of 'openness'. That think I possible see as being a 'niche'. And then the light fitting sitting back into that niche. So it's sort of like a window at light. And this is going to give me omnidirectional lighting quality which is going to pick up. It's not a wide space, so it's going to pick up all those surfaces. If you detail it like that, then as you approach it, you don't start to see the light source till you get very close to it. And as you're looking up this thing what you get is a glowing space.

36:01

Travels through space and examines access to the living space again. Examines ceiling heights single/double height space.

PART TWO

Draws two sketches of the entrance corridor in perspective and thinks. Looks for surfaces on the corridor part that continues after the door and after the staircase. After the second sketch he goes for the option of inground uplights along the solid wall. He considers light hitting two surfaces: the ceiling and wall.

03:45

He then considers the possibility of wanting to have pictures hanging from the wall. He is being redirected from the problem as irrelevant.

04:00

Tries to resume that pocket area by drawing a 3rd sketch. He repeats the light solution with uplighting the wall. More complete this time as he adds the cylinder of the staircase.

05:05

What I am looking at is doing that and getting light up the wall and off here. All the way along here (first wall) and the same thing there (second wall). So there is a sort of light pattern (draws contours of imaginary light spill) which is going to do that. What we've got then is this wall which is starting to curve away around here with the staircase in there. And we've got the double height space and there's the kitchen... Eventually there will be something filtering out that way. But then you look down that way and that's an interrupted view and that's a solid element with doors in it. This is a solid, really solid element. Apart from the floor those are my visual interest points. That's where your eye might be drawn or would certainly be resting, if you lit it. Which in a sense gives you time to come upon this space and judge it. You're going to be less drawn to that and perhaps more drawn down into the heart of the space. This (balustrade) is a solid thing around it so this going to block... from that point of view you're gonna have that view blocked, aren't you? Because this is pretty much solid isn't it? It's almost like a cylinder. But it's sort of a cut cylinder so you have these solid elements which go around like that... And that is coming back the other side (the inside of the balustrade)...

07:13

Transfers to the curved wall area and tried to solve technically the issue of lighting it vertically from the two sides.

08:00

Then that would lead you through... (Following the corridor line) The lit wall here is carrying round in a different way. Because you have to match the colour temperature.

-So you want to achieve continuity on those solid walls.

-Yeah. And that would give you a reasonable background. Because if the guy's going to be working here are night he's going to have some sort of task lighting. Wherever his furniture goes. This might a work bench as you're saying. Are you saying there's a workbench?

-Actually this line is misleading. It's a dimension, not a bench.

08:38

Starts working the possible position of worktables in the workspace. Tries to continue the thought of the illuminated wall working as a background for actual task lighting but doesn't conclude it. Considers the staircase element as a dominant vertical element in contrast with a pendant hanging from various positions in the ceiling and the movement of coming up the staircase. Discusses about two types of sources, LEDs and tungsten halogen to balance high and low efficacy for Part L considerations. Decides for tungsten at the corridor wall and LEDs for the curved wall.

11:50

Checks the double-height spaces in the living room and realizes they are dark in comparison to the others. Chooses to move on to the library wall as a focal point.

13:35

Draws a sketch of the library surfaces and decides which ones to light.

-So I've got this back thing here. So what I might be looking to do is to say, when I look through I want to do something about that... (First plane) and I want to do something about that (second plane). So in my perception...

-What area is this?

-What do you mean? You can't understand my drawings? (laughing) So when I am looking through from here (workspace) or from here (living space) I've got that and that (underlining surfaces) as being representative surfaces. So that's your corridor, so you're going off here, here's your opening and you've got that bridge link... I'm coming now into my... so that's going up... and my daylight here... so that wall is going round... (thinking while sketching of the configuration of walls and space arrangements). So I'm looking in from here and I'm thinking that's my big surface. If I want to think that that's a bright space then I would... I know books can be quite absorbent and if you've got that lit. And again it's something that we can look at. This thing here, the backdrop for that could easily be a fluorescent uplight, that sort of thing. So you're throwing light at the back of it, not too powerfully but enough to give you brightness. It may be that whatever that sofa is, that becomes another material which is painted, it's white or it's a stone. It might work nicely because you could easily have stone across the floor here.

-So it's like a cove?

-Yes, it would be (sketching detail). Your seating is going to come down like this and I'm thinking it's going to be something in here, into the floor and it's just going to wash up the back of that and then when you look beyond that, to the wall, then... You're down here somewhere... here's your bookshelf casing and that's going there beyond that, isn't it? So that's a little recess? Probably I want to do something from here and whether that is fluorescent or tungsten... I think.

-It doesn't really matter, as long as you describe the effect you want to achieve.

-So the effect is that when you're looking from inside, you've got a lit surface and a lighter surface, it's gonna be lighter... it depends...

-So it's one grade and two grades higher?

-Yeah... So that becomes the thing that attracts you through there. That space is an interesting space because it's sort of a 'nothing' space, isn't it?

-Yes.

-You need to put some sort of recessed lighting into the steps here. Just so you can see them. Because the moment we haven't got anything here I would be inclined, if I'm doing that and that, go for table lighting here. Because there's this sort of low level... If you wanted to read, you'd sit here to read. You don't need all those chairs. You've got a couple of places you can sit next to your table light. So, that's doing your ambient light, that's doing your ambient light. In which case you've got safety lighting if you like, but it will be attractive little... those little xenon thingies that give you a nice warm glow... But again it depends upon the finishes and you might go for soft finishes in here (the reading space), while this might be hard finishing (the living space). Just so it's cosier and it will help to absorb sound. If you have all these hard surfaces you have to do something. If you're going to sit there that might be an idea. That would then allow you to see straight through. And you're not gonna put anything there, are you? So this is a transient space. You're gonna move through this space very rapidly, so if we've got light spilling out of here (seating area) and we will have light spilling out of here (kitchen), then maybe all you need to do is to have something under there. What I would be inclined to do, since it's a sort length and you imply that this is a glass floor...

-Glass balustrade, not floor.

-Not floor? Why not a glass floor?

-You can propose that...

-I will have a glass floor which I will then light. (Sketching) So, I've got my glass balustrade, since he's got plenty of money, I'm gonna make a sandwich. And I'm gonna have something in here, and that's gonna be etched, and that will be partially etched, and you're gonna get light scattered off that. And you'll get to eventually replace it but it's going to be a lot of time.

19:35

And that's going to give a nice glow up here, and a nice glow down here. So it sort of covers... that is a relatively short landing there, isn't it?

-That's the landing.

-That's the landing and this is the glass, isn't it? So that's a relatively short. And it's what, two metres? Three metres?

-Eh... two and a half to three, I'd say.

-The advantage that has is that it provides already ambient light here (upper floor). I would not offer something that had been done so many times before but it does look elegant. So when you're coming up your staircase, low level wall lights. Those little things with the sources up here (sketching).

-On the inside of the balustrade, throwing light on the steps?

-Yeah. So it just throws light down. And then because the steps are fairly wide I would probably have on in every step. This doesn't have to be a lot of light. When you look up the stairs...

21:17

He continues studying the effect of recessed wall lights into the steps of the staircase. Rethinks the solution of the backlit glass floor compared to lighting the bridge balustrade. Decides to leave the glass block floor as a more 'attractive' solution. Refers to the shortcoming of light coming from underneath the walking person but balances this with the effect of a light ribbon on a double-height space. The advantage of providing solution for a difficult space even though it's a domestic situation. Refines difficult in terms of accessibility and maintenance. Gives the example of mounting fittings on the adjacent walls which would be hard to get to. Adds the benefits of using long-life sources, and works out a rough detail of the removable floor panels.

24:00

Following the bridge link he comes to the WC area on the mezzanine level. Proposes low-voltage lights for the bath since they provide sparkle/light quality as opposed to energy-saving fluorescent sources. Identifies the WC and wash hand basing...

-You start to look at things like... You're gonna have a mirror in there? A curved mirror?

-Mirror was planned for opposite the wall, but I guess they would need a mirror there (too).

-There? Well if it's a man, and he's got his sink here, how is he gonna shave?

-He's probably gonna add a mirror in there, yes.

-You can always have that. But what's the point of having this elegant thing. What's going in there? Are you going to put in glass shelves? It has to have something of interest otherwise what's the point? If you are going to put a niche in there and it says, light me, what am I lighting? Because I'm not lighting my face, because it will always be at shave. I've got to turn round and do that. If you're a wit shaver, you've got phone... you know and water. So every time I'm going to... like that... which you can't see, so I'm turning round here to apply this, I'm gonna get my razor, dip in the water, I'm gonna do that and come back again.

-Yeah, ok.

-So, let's have a mirror here! And then we've got that problem... A perennial problem: if we put a light in there, God an awful view you get! Because now it's coming down and hitting you quiet strongly, giving you sharp shadows underneath. (switching drawings) See you built something in there and now you're saying: well I'm actually providing you with some sort of (sketching).

-Yeah, it's like a pelmet.

-Like a pelmet in there... and you're saying: put me a light behind there to light all this.

-Is it too obvious?

-You see I would like to not do it from above. I would like to see that. To put a pelmet in here so that I can have some sort of linear element which is gonna wash round each side. Then, If I've got a mirror in here, it doesn't have to be a curved mirror. It could be a flat mirror set off. You wouldn't want the mirror to be on that line, ideally you'd want it back here a little bit, so that the bounce light can get around behind that and it's gonna light your face more evenly. Again, a bit of diffusion. No harm in having a point light coming down provided that you've got that sort of ambient lit condition that allows you to see.

28:00

Working on the mirror issue and dressing table for the woman/user. Then moving on to the dividing wall behind the toilet. Devises a split level wall: half solid half glass block reaching the ceiling. Next he makes the wall thicker to incorporate the flush water tank and light it from the top of the solid part (3 sketches). Studies the daylight and interviewer indicates the existence of a skylight on top of the bathtub. Reflected light from the ceiling comes into consideration. He thinks a bit of how the niche could be detailed. Both discuss on the possibility of keeping the wall thickness. Discussing on the structural solution: position of pillars and structural wall. Goes back to the niche detail and reworks it. Comes up with a third option of having vertical wall lights by the sides of the niche. Supports that option with the argument that it provides good modelling. Realizes that this option does not give enough light inside the niche. Contemplates that this might not be necessary; it's not a goal in itself since the user's face need only to be lit. Reconsiders the though by examining whether one can put ropelight/xenon strip/LEDs in a detail along the niche. The effect achieved this way, he names it a 'vertical drop'. Returns to the split level wall with glass block. Small talk about concealed water tanks. Returns to the bathtub and criticizes the skylight from a privacy and accessibility point of view. Proposes a translucent panel for the skylight.

36:30

After a short discussion he redesigns the skylight to a smaller opening. Specifies its size to about a third of the existing one. Moves on to the bedroom and proposes light inside the wardrobe.

Interviewer shows the existing glass door of the wardrobe. Starts thinking about the lit appearance of non-tidy clothes. Asks about the dividing wall height.

PART THREE

Examines the structure of the chimney and fireplace, the bed level and the bookshelves furniture behind the bed. Asks about the ventilation. Interviewer informs it's not been detailed. Clarifications on the shelves structure.

-I think maybe for in here the other option would be, suggesting light coming up there. That whole space then gets ambient light from the top of this unit. So that is our light source.

-So that's the second option then. Is it something you would prefer over the others?

-Well I'm just looking at that because you've got an entrance hall, you got the whole of the bedroom. I mean you've got to have some sort of task light for reading in there. We got a bit of glow coming out of here which may or may not... we may decide that that should be on only when the doors are open. It might be that what we're doing here is to say where that comes across... in here we put an asymmetric reflector. So what we're doing is we're throwing the light forwards, so that in there...

-So the asymmetric reflector is on the bottom...?

-... which comes up like that. With our toilet over here, what we're throwing the light like that and then you're doing the same thing...

-The toilet is on this side?

-Yes, this side. So we're throwing the light away from the toilet. You could stop all light going from the toilet. You could put a baffle in here and it might be something you can add afterwards. It's something you can look at and say: yeah I'd prefer this cut-off. So the light starts on the ceiling at that point there and goes forward. So we keep the toilet as a separate unit and it does what it does without any additional confusion. And we could have that, instead of being a solid baffle it could be a perforate baffle. So you get a little bit of light sprinkle in there but it may be enough to be able to see your way around. I would use that to push my light forward to the whole space and again into here (entrance hall). And that matches with that diffusion. We're using the horizontal surface in here. We have things we can get at them and we haven't added things onto the ceiling. So none of these places apart from under here and here, will have anything in the ceiling. So when you look through, even though those are only two metres high, you look across the ceiling and you don't see anything at all.

05:30

So you have this ambient light now. The only thing that would argue against that is somewhere, if there is a place in here that would introduce some make-up mirror and a table that you would want to have some sort of light. Difficulty in a space where you're got hard surfaces unless you've got a ceiling and then you can recess things and hide the wires and stuff but otherwise you're relying on casting stuff into the concrete and that's a fix you really don't want to do.

06:11

Kitchen area. Asks about the niches in the kitchen wall and also the type of cover if any. Remarks the issue with 'kitchen clutter'. Interviewer puts him off the functionality of a family kitchen. Thinks of options again for responding to the recesses.

07:52

-There is a number of ways you could suggest lighting those recesses. And you might want to do them all slightly different. When you look at those, there are three interesting ways in which you can do this. These days you can have glass shelves, edge light them...

-First of all do you think you want to light them?

-Because there's a feature here. And I'm looking for ways in which I can produce ambient lighting to this kitchen. Which in a sense it's gonna mirror what I've got here.

-You are starting then from the need to put light and then you're trying to find the position to put it?

-No, I've got a bright source here, this is my light source and it's a window. It happens to be a window. Then I'm coming round here and I'm saying, I've got those solid elements here and access which I might do something with but if I've got... I got this translucent window here. Now what I've got is a series of little windows with different things in. So I've got a luminance here... What I'm going to suggest is to create these as artificial windows but they are actually displaying things as well. So that is going to be speaking in a similar language to that. Except at night time of course the roles are reversed. Because at daytime you wouldn't need the lights, but at night time you won't get the light there, but you get it there. So as I say there's three ways of doing it. There's edge-lighting, you could put a light box up here and you could put a light box behind. The one at the back would be the closest argument to the window, but not necessarily the best way of lighting things that you want to find. That would probably be the best way of lighting things you want to find, that would be a pure decorative thing. So if you decided you're going to have china, tea-cup, plate, tea pot, a glass jar, or engraved decanter or staff like that, that might be a nicer way of doing it. That's not a clear glass, which is obviously an etched glass to scatter the light up and down. So I think those are the three ways.

-And it depends on the content, yes.

-I think it depends upon the client as to how they're going to use the space.

10:54

The other way that is saying this, unless you're telling me I want a false ceiling, then I'm trying very hard to light these spaces without having to go up to the ceiling. Because if I go on to the ceiling I am going to have to cast in and it's notoriously (...) to get lost. And then you have to cut through the concrete to get to them and then you've got a patch. So unless you can guarantee that you're going to have a nice smooth surface and be able to find these lighting points which are fixed and cast in... The only other way that you might get round it is to have say a slot cast in to the concrete slab.

11:59

He examines the kitchen island area as a candidate position for a ceiling slot. Checks again the ceiling height of the kitchen and turns back to low-level and local solutions. Has a quick look at the visualization to clarify the borders with the reading area. Speaks of the high ceiling as unusual for a domestic environment and the maintenance issues once more while thinking of a solution round it. Starts working from the extraction fan to a solution that extends it. Expresses his reluctance towards hanging more elements additionally to the fan. Tries to work on a combination of fittings and fan into a sculptural form. Thinks about pendants made of Venetian glass glowing in contrast to dark stainless steel hood element. Tries to transfer the hood to another position but decides the current position is best. He then proposes a whole structure covering the table with lights incorporated. Works extensively with sketches and is finally redirected from the interviewer away from solving the detail as not very important. He therefore summarizes the ideas for the kitchen.

20:15

-I suppose then, if you look at the concept it says that that's your element of direct strong light (kitchen island), and here is daylight diffusion (window), artificial light diffusion (niches) and what are we left with? We're left with... at night time well that's going to be bright, that's going to be bright, we got bugger all there. There is cupboards across there?

-No, it's only low (level) cupboards.

-Yeah, that's what I'm saying. That it's low cupboards

-Oh yes.

-I did start by saying, we would put (light) around the edge there... We're sort of detailing that cupboard, which is sort of bit like that... (Sketching detail). That you have that washed as an island. Probably better to do it on this than it would be to do it on this.

-Why is that?

-Well that gives you a sort of... it highlights... Well because that almost sits as a square in the middle, it's not quite... I think it would be easier to detail it in that sort of island than it would be to detail it in that sort of cupboards where you tend to have a fairly shallow bit before your cupboard starts. To detail that into... Ok we got our rich people and they can do anything they like and they can have them all made...

-It's a practical thing then, that you can detail it more easily...?

-I think you can detail it more easily and I think it could be more effective in a sense because it's sort of doing this surrounding area... Because I get out to here as well (kitchen door) which means that unless there's something going on that wall... I might get away with my strong light coming down with my... washlight around the edge.

22:22

Now, the next problem is going to be what happens at night when I got no light in here and I want to work on these. I got no cupboards over. I do need some descent light down here. That might be enough. I would certainly need something in the ceiling. It's too high for that. What do I do? I suppose I can be radical and say I want a nice strong element at around 2 metres, half way up, which would allow me to have... Almost like a track. Nice and thin and I can attach downlights so that I can move them around... It's not the best solution but you certainly gonna... So you got bright there, if that's also prep space, because that's more dining, that's prep space that will need to have more light, good light there. So it's got to be over the top. You've given me a very high ceiling; I don't want to climb up 4 metres. It's too far on a step ladder for most people. So I've got to bring that down and maybe I would suggest that we could detail something that sort of sits in front of that window. That window that goes up four meters, does it?

-Yes.

-So I'm looking to sort of do (mumbling).

Sketches a detail by the window of a thin structure to take in some light at two meters over the workbench in the kitchen.

24:31

-At least I can get to that. It's two meters. It's just above eye line, so everyone can look through the window, it's not disturbing the view. If I look up, yeah, that's a problem. Easy enough to change. I don't have to clean anything on that level. If I put anything down here, I've got to clean (it). It's got to be washable and cleanable. That's not the best place. The lights got to come down on to here. Whether or not I do the same thing and run that round. Because that is also a prep space, do I get enough light out of that? Well I have to look and see. Depending upon the way in which... It might be that one ends up having this as an element that goes around that space and therefore it's gonna have to be suspended. And that rings around. So I've got strong light, strong light, diffuse, diffuse and a marker around the floor. We could do this with LEDs so that you've got a soft glow. Long life... so we don't have to worry about it too much. They last for ever.

26:00

Again I think, outside I would reinforce that (curved wall). It's sort of fairly simple and obvious. It's a nice space but I think you would probably do something... uplight the tree there. And maybe not do anything more. So, focal point, focal wall. I might think about that threshold. That goes all the way up, isn't it?

-Yes. It's a door

-But it's an opening rather than a door? There's nothing...?

-Yes but it doesn't reach the ceiling. It's like...

-So it's a wall with an opening. What might be interesting, although might be over fussy, since we got that thing there, could be to use that return-edge. To put in a strip of light. It marks, creates a door if you like. So that goes up and over the top. When you're coming down you could see this as being different.

-And that's good or bad?

-From my point of view – obviously I'm suggesting this – I could argue that it's good. Identifies that these are different spaces. I'm drawn to that, but then I don't have to do too much. I would wash that (curved wall). I wouldn't wash that. There's a nice focal point and a bit of tree lighting.

27:50

Tree lighting detailing. Asks about heights and types of planting. Moves on to the external wall niches and works out a similar detail of a glowing box for them. Colour changing is possible. Top and bottom directions instead of sides.

-Is there any reason for the use of colour?

-Well, here is a fairly simple approach. I'm using all white here. Whatever the colour of that wall is. That will be the colour of space. This is a smaller space and what I am looking for is something slightly different that gives a different view. Because you're not seeing this (front yard) unless you move in to it. This one (middle yard) you're looking out from here. So maybe the idea of having some pale blue, at night time. So when you look out there this sort of glow; ethereal glow that you get with blue which might get that interesting. The other thing would be, if these are big enough, to try and create moonlight so you have a... Is there a roof there? Yes, you've got a roof up to here.

For a short while he goes on envisaging a white beam on the tress in contrast to the blue backdrop inside the niches. Then moves on promptly to the underpass.

32:37

-Under here, this is solid. This is a bug of a space this one!

-Why is that?

-I think I might be tempted to take that idea of what I've got there (entrance corridor) and do the same thing. As some sort of vertical... you can't see through there can you?

-No.

-So it could be on the outside wall, or it could be on this wall. But have this sort of vertical things. And maybe you could look at that, again it could be a random distribution. Again if e can make those so that it is a recess and that the light fitting is in the recess, so that we are now trying to create an artificial window.

-This is the same as you proposed for...

-Yeah. Yeah. So you've got a link then. You can come through... you can't get to that space, can you?

-No, you have to go round.

-You have to go inside.

-From that side you can see the wall...

-So that would tie up with that one.

-From far away you can perceive those two.

-Yeah. Yeah. And it could be that you... I don't know how many you'd have. I'm not quite certain. It doesn't have to be in a straight line. These are sort of arrow slots. They're communication slots. They don't have to be wide. That's going to give you the sort of interesting glow. Again, you're going to get light up on to the ceiling, light on to the floor, light on to the opposite wall. It could be interesting. It could be that this is quite a cold light so that it looks like daylight.

34:53

And then out here, that's the same wall. Would you create...? I don't know. I don't want to carry that through... because that's got a lid on it and that's got a lid on it I want to do something different there but I don't want to be too obvious about it. How important is that space? Well probably not. Maybe what we're looking at, if we've got a nice bright area here that this becomes less bright. I'm not going to light that because I think if you light that, it's going to be harder to see through. So what I might want to do is to keep the clarity of that. Move to this side and maybe just have a couple of buried uplighters? What's that going to do for me? No, I think I'd do a similar sort of thing. I'd stick it on the opposite side so that you just get a glow in here. But it wouldn't be a linear thing. It might be more like portholes.

-Any reason for that?

-No, I'm just arguing with myself. What's the floor? You don't know the floor finishes. That could be a sort of pebbles. I'd think about a sort of low-level thing depending upon... It might be at either side that we have something that does sort of that. This just lights whatever we got on the floor. Not evenly lit, not regularly lit but it's just something that is going to provide a reflected light. Because there's no ceiling, so you put it down on to the floor. And it could be the sort of fittings that does that... But that then... how does that read with that? Because you've got your vertical element and then you've got your bright stripes going beyond...?

PART FOUR

-It could be pebbles and stones, it could be other things.

Talks about different floor finishes and the effect of light on them. Pebbles for the rest, flat for the underpass (barbecue area). Japanese style garden. Raked finish for the middle yard. The sequence of spaces as an experience. Front yard by the entrance. Peter considers doing something with the wall but realizes it's going to compete with the entrance.

-To light that wall... Then the problem with that is that it's going to compete with this entrance here. So that would have to be quite subdued. So it would need to be a general wash rather than downlights. You're going to draw your eye to it. You don't want to draw your eye away from that entrance. Again, you light the floor and you get a very soft glow that will just be emanating at that wall. You're aware of it. It's there. And then depending on how you develop that landscaping... is to how you might introduce... Difficult to say exactly what you want to do out there, if you don't know what it's there. I think I would stick to this idea: it's the floor I am going to light here. And this is going to be a warm and general lit space. We have to watch the brightness of these things and I think... into a recess will help... we would dim them, so that we don't get too much brightness out of them.

02:40

Summarizing the light solutions by the interviewer. Wall niches on the one side, light on to the floor. Not sure about the finishes but Peter clarifies it's certainly going to be a low-level one. Having a quick look at the elevations and asking for some clarifications. Chooses the mezzanine level plan.

03:38

-So what I'm saying is that I think I've got my lighting on the wall there. It might be that I've got low level lighting there and there. So that I'd lighting that away. Because that will give that warm bit of a glow. So that you're going to be able to see that, and you're going to see that. It's not going to be too strong. Nevertheless there will be light there. And you can adjust it. Same thing from there. But then that wall would be the wall, so that when you're coming in you can see that (the view through the corridor) and you can see that (the view through the exterior wall and back to the back yard). So you can see through there, so it will be a long way while you see those lights to

canopies. But obviously only if that's being used. But when you will be having your barbeque you will be using it so that all will become part of one scene.

So I suppose, what I'm trying to do is: when I have to, I've gone into the walls rather than the ceiling because walls are going to be easier to deal with in terms of distribution (of) electricity to fitting. I am using the floor and furniture elements, elements which define furniture spacings, to give me vertical illumination on surfaces. I'm lighting the surfaces in here and the treads (stair). I'm thinking about how I might light that wall (curved wall). I think I'd do it from the side; I wouldn't do it from above; too high up. Although you've got to get to the top, but I think that curve would lend itself more to be like that. It would be more interesting because you get a gradient. It wouldn't be uniform. It would go bright to dim here. Bright to not-so-bright, bright to not-so-bright. Use that space by having a glowing element running through. So it takes away any other need for light. There will be enough glow to do that. The bedroom: again I'm going to use the ceiling. Try and keep those straight lines out of here and that glass wall. Reduce the daylight there (bathtub). Glass wall where I'm going to hide the cistern and put an uplight right into that glass block. So now I've got a bit more communication here. There's daylight coming in here so you'll be able to see a bit of daylight during the day. Otherwise it's a dark space. And then outside, I want this one (middle yard) to be exciting, this one (front yard) ought to be calm and these will be interlinked with that. So when viewed from the kitchen, may do a bit of moonlighting here, put a glow, blue glow. But again I am keeping myself to edges and elements which are

07:29

provided for me, rather than going into the slab. So if you're going down the route having the concrete slab, I'm keeping out of that. With a few judicious low-level table lights or something where you want to say a softer feel which will be in two reading areas. Here and here. And then obviously you utilise that as a reflecting source at night. Although the light is up at high level, it's not in the concrete; it's in an area that we've created. We're making the rooftop slightly bigger to fit the space and then using that as a light generation. So, diffuse light reflected off a blind which we're going to put in. And then downlights wall-washing... to do that. So we haven't really gone into the ceiling at all. Walls and wall really.

-So it complies with your intention then?

-I had that in the back of my mind. I didn't know how effectively I'd be able to do that. And what I've said here was that we've actually created lighting in the ceiling but with elements which are part of the structure.

09:35

-They are incorporated elsewhere but not in the ceiling.

-I can't think now of anywhere we put anything in the ceiling. I got rid of that (pendant in workspace). That (stair) could be a glowing element. Glowing, glowing and then task. The task lighting would be to suit whatever built-in furniture there. If that's going to be a workspace he's got to have built-in furniture. So that will have to incorporate the lighting somewhere. It could be a simple desk light.

10:19

That's one element (kitchen) that goes back to the ceiling. But if we're clever about it, we don't have a power feed down from the ceiling, it comes from the wall. So where your tube comes in to that wall, you cast a little power point and your feed goes into there. So that means all you got there is a series of thing wires which makes it almost invisible.

Closing discussion

PART ONE.

00:00

Briefing takes place

12:20

-Do you have any ideas of how you're going to approach this?

-I don't want to go into details straight away. It's more like finding a more conceptual thing. There's a lot of openness and enclosed-ness in this building.

-More specifically?

-Lots of open spaces with connection to each other and closed spaces as well so it would be good to play with that but I normally quite like in terms of lighting design to use contrast. I think that would suit this project 'cause it's domestic so you don't have all the regulations; not so much as with offices... you could play a little bit more, err to make it a little bit more lively or... visually interesting. So it's about that I think, it's about looking at which elements are really worth announcing (?), maybe some other bits we should neglect... Is it about internal lighting or external as well?

-It's mainly internal but if you think you want to do something external to enhance the scheme, then you're more than welcome to (do it).

-How do you think the space will be used... is it... is this designed for a certain part of people or...?

-I haven't gone into the profile of the people. I'd preferably you did the lighting scheme you thought is suitable for the architecture and we cannot possibly... I mean it's not in the outline of the scheme to... the consideration of the people's character or what they like or not. Let's do it as you like it.

-What are those by the way?

-Those are the panels which are continuing and those are full-height there.

[Unclear comments]

Explaining on the computer screen the panels' position and height. Demonstration on section drawings.

15:06 -Quite a strong element.

Asks for further demonstration.

-I think we would be interested to do something with that... to just show that rhythm. There's a bit of [unclear] direction to them as well. I don't know... You could do that in different ways. It's basically putting just a tiny upright in between, I would do it like basically showing in one direction instead of both. Because otherwise it's...

-One direction...err?

-One side of the panel. Not everything. So basically you have a contrast. The fins would mean having upright up here, or maybe you know just a lineal thing.

-They are not as big so probably...

-No I... what I think a bit more like a narrow-beam LED with a bit of strong punch. What's the difference in height between the interior and the exterior ones?

-Those are 3 metres because the corridor is 3 meters; those are 5.

-5 metres. Could you zoom into...? Which area internals?

-Which ones?

-The internal ones. It would be nice to enhance it as an element but not necessarily in the same way, because of the height, you'll never going to have five metres. You could do this with (a) strong LED err... projector. You can't do that for five metres, I think. It's off too much. So it might be interesting to...

-So like the idea of the effect to be same but...

-Basically show it as one thing but maybe with a different treatment inside. Because it's a... Otherwise you could only see it when you're walking here (along the corridor). When you're sitting here you won't see it because your face is directed that way and that way and the same thing up here so... you could hardly see it I think. It would be interesting to silhouette those, only that they are going to be blinds; that is not going to work. Or it might be interesting just to... What material is it?

-It could be concrete or plasterboard. I haven't decided that... is going to be. But it's solid.

-What might be interesting is that you... It is a barrier and it isn't at the same time. That's I suppose the interesting thing about it; so in terms of light you can make it even lighter as an element. So you could even think about having, for instance like, LED strip; oh, but they're full height there. [Unclear]... just a glow, all the way up.

-So you could see the tiny spots of the LEDs?

-No, not exactly. Just a line, the opal diffuser form... So if this is the panel [sketching], you just have it recessed, just a tiny one, it just gives... yeah... very gentle glow and it would make it really-light as an element. It still will be a barrier in a way.

-And what side... on that side you've got those...?

-Err it could be in both sides but... The thing is... it is interesting as an element if you continue this line, on the other hand, how often are you going to walk in this direction? Normally, most of the time is spent in the kitchen and in the living room. Ok, and then you go... in the evening. Or maybe you come down from the bedroom in the morning and (when) you go up in the evening. So, I think it's a bit... it's a lovely element, if you continue it; you hardly can see it. So I'd rather do it in this side. At least you will see the effect from here. The daily living situation it's focused. We're still not talking about functional lighting!

20:55

It would be interesting to make those zones really clear. Basically define them as a zone. Can you zoom...?

-So you see it as very distinct zones then, the rooms?

-Yeah. What might be interesting is basically to have, for instance like, glow from this little gap here, which just grazes the underside of the bench. Like a tiny slot, and it will look good from there. Is it half a metre is it, or 40 cm?

-Err it's 40 (cm). Half a metre, something like that.

-Yeah. It could be interesting to add that around here. To basically, clearly distinguish that zone of comfort. It's a bit of lounge-y area. Can you show the staircase?

-It's not very well modelled because the balustrade is missing. I didn't want to put because it would be a barrier. You wouldn't be able to see anything else.

-Can I see it from outside? Not really sure if I would anything on the staircase itself just incorporating light in the staircase. Maybe (it would be) best if I (do) the general lighting on the ground floor first. It might be interesting then [unclear] to this line by having fittings up here. What scale is that...?

Checking scale with scale-ruler.

-It could be quite interesting to basically continue with that idea on this wall up here.

-This one, or that one?

-Yeah. This one. But I would put linear fittings. How high is this?

-This is 3 metres. Can you make a detail of that?

-I would about probably wall-mounted fittings, you've got different solutions. Let's presume that's the straight wall, then you just have fittings like this [sketching]. So, it's mounted like this, just plain... with a diffuser yes. Just to show more or less the rhythm. It doesn't have to be exactly full wall height, because you don't have to make an exact a copy of what's going on outside. We're just referring to it. It guides your view... towards the... towards the end; just further... further down. So that could be a solution for here. I don't think downlights would be interesting up here, I think you should guide the view towards the end basically. This is exterior, right?

-Yes, you have an exit door from the kitchen and the hall.

-Yeah. You might basically do the same thing up here. It would be very simple treatment. I think you visually relate this to this.

26:32

-Err... workspace... err. Ok so this is the desk?

-No, that's a dimension.

Explaining the dimension symbol in the workspace. Then giving extra info about the balustrade nature and structure.

-I would quite like to light this wall. More or less, wash this wall to enhance the ...

-Up or downwards...?

-Upwards. Downwards, you might get glare. It could even be a linear thing. This is easier to do and it is basically...

-Don't worry about the technical difficulties if you want to ... There is no budget so...

-What could be interesting is silhouetting this volume, it could work fine. What you might think is about lighting this wall, can you show me this element?

Demonstrating model again

-It could actually be quite simple to add light, add a small light in every step. Every step that is close, next to this wall.

-How is this light? I don't understand...

-Like an uplight. Like a small recessed in the step.

-Can you do the detail of that?

Demonstrating section and clarifying inaccuracies.

29:30

-A solution would be to add this... say it goes down like this, more or less, then it steps up, or it'd be easier to basically incorporate light up here, so it's more or less recessed like this.

-Something like a balustrade then...

-Yeah. In balustrade. Probably it will soften [unclear] and the light source is up here and light basically bounces downwards; it will be an easy. Ok the downside it the technical the other solution (will) probably not, but you can do it with an LED strip, should be feasible. Yes, it's flexible, you can follow the shape. You don't need much light. It would be better solutions than fittings 'cause they would give strange scallops I'm afraid. Where will the desk be in this space?

-It's up to you.

-I would like to have a view outside if I'm sitting there. Can you show me this one?

Demonstrating the 3d model on screen once more.

-I would probably think about [unclear] desk somewhere here with a chair here, so you have the view towards the living and you still have the view outside, yeah if the doors are to be opened then the desk is blocking it. It wouldn't be that situation I think. [Unclear] I would put the desk further back; you could still walk around it. So I'd think about introducing a task light here, which makes it more flexible 'cause you if you moved the furniture across the space... you don't really want to block that... the glass I think. So you'll have a bit of reflection coming off this wall; it's not enough of task light. You just basically need something on the desk: a task light. And to get the sense of orientation; I wouldn't even add much more up here. Which kind of... as I told you... I don't mind dark and lighter spaces in a house. In an environment. Like... more contrast. I'll be keen not to light everything. So I wouldn't mind if it's just a task light up here,

33:13

Living: it's not really being used except for movement, right?

-Yes, yeah there isn't a lot of furniture but...

-Can you zoom in that area?

Identifying various elements. Robert asks for the seating area specifically.

-Ok you have a skylight above, right? Now I think this...

-This is 4 metres.

-No, but ...

(asks for dimensions of the skylight)

Demonstration of the detail and a brief explanation.

-No I wouldn't like to put any lighting in here because the nice thing at night is that you see the stars in the sky. So I wouldn't like to pollute that with some lighting which is basically reflecting on the glass 'cause you won't see anything. Which actually means that lighting in this area should shine down. Should be downlights... downlighters or whatever. At least something that doesn't reflect in the skylight. That thing would be a shame, because you'd lose out on that view at night.

Asks to see the 3d model once more.

-The mezzanine is running till...

-The mezzanine is here. It's that volume you see over there. So it's basically coming this way out.

-I think it would make sense to use the mezzanine for some downlights which shine on this one.

-Narrow beam or wide beam?

-Err... I want to go for narrow-beam. It'll (give) pools of light, which I like much better. You could even have ones with asymmetric beams just to glow here... glow here... and glow here. If you're reading that's what you need at full height, which will be dimmable of course because you don't want to have all the.... It's not that high... how much high...?

Consulting model and demonstrating height differences.

PART TWO

-You were saying? Ah you were thinking about the privacy...

-Can you zoom in? What's going on with this wall?

-This is the fireplace and the... The window and the fireplace. There's no space for anything else.

-Ah ok. The fireplace probably is not going to be used because in terms of carbon monoxide, whatever is called, chances are they are going to be suffocated in their sleep...

-Err... only on special occasions then! Well, I don't know I've seen fireplaces in bedrooms.

-Ok. Probably it's going to be gas fire anyway which gives you the opportunity to still incorporate some lighting into the niche. The job I had in the Netherlands, the guy showed me LEDs which were custom-made, like two LEDs amber and white, just a tiny fitting, very simple... something like this with three LEDs in it and they were flickering. (They were) programmed to flicker. So like glowing and... stronger and wicker light source and just flickering little bit, which really looked like the way flames would behave. There was some kind of cloth on top of it which was a bit diffused. It's not like the cheap things you see in restaurants with a fan and an orange light. Not as cheap and easy as that. Just diffused... the punch of it really looked like glowing flame so... I would think about using that up there. Ideally (they would be) recessed in this bit. If this is the fireplace [sketching] put little bits like glowing coals, so I think it will be a really nice element. It will give a glow to this whole niche. So it will the idea of fire and its very safe.

03:07

-That's again very theatrical.

-I know. It would be quite nice to lift... to elevate the bed. I don't know how this is...?

-It's a standard bed I put there.

-I would like to lift the bed from the ground and make it more or less like floating.

-Are you (planning) to put any light in there?

-Light underneath. So there will be light coming (from) under the bed.

-Like a halo effect.

-Yeah like a halo. That's a good description. That would be really nice, which provides enough ambient light for walking around it. And the other thing we need is reading light. Can we see the cupboards? Yeah it's fairly tempting to put lighting in the shelves. But it doesn't really shine light down yet. Does this start at a point that the bed head more or less ends or so? Because I do have [unclear] ... When this is the bed, there's your pillow, and normally it does like this: bed end, you got a wall up here... The thing is a bit of a decent bed is always put at an angle and there goes the light; you block it yourself. Which I think is really annoying. You're sitting here, you're reading and you just can't read anything. Because the light source is here and shining that way...

-Yes I can understand. I never thought of that.

-Which I think is really annoying and what I had in the Netherlands, which is like the most simple fittings which is like the tasklights we have here, but more extended one... You can just pull it over. Another option could be, to do a variant which comes down from the ceiling and goes two ways.

Interviewer asks Robert to sketch again the detail so as to be more useable. Robert sketches a new detail and mumbles to himself.

-The varied to that one, that one I just drew is more like... doing more or less this, the variant is coming down from the ceiling...

Robert thinks around the two options and realizes the one coming from the ceiling will act as an obstruction to the shelves behind it.

07:12

-...can basically do this, with its arms up; this can do the same thing, hanging down. From the ceiling, it might even be nicer if you could push it up.

-But then it might be an obstruction for the bookcase, wouldn't it?

-Yeah. Probably it would.

-If you want to grab a book, then...

-Yeah but they won't put books in there, most likely. How much height is there?

-That's up 2 metres. And there's another 50 cm, half a metre to the ceiling.

-Yeah, you are more or less blocking the way... You can then go for this one. And they come in smaller versions as well. So (that) they don't really block the full shelves so... [Unclear] Yeah, it would be nice to put some nice objects in here; I don't really think about using books. It would be quite nice to have like... glowing shelves.

-How do you imagine that in detail?

-Just... how thick are those shelves?

-5cm I would say...

-It would be possible... it will be easy... expensive solution but... ok. You basically have like... if this the shelf looking from above, you have like... LED arrays in it, shining up. So those are the LED elements. You put some raisin on top of it, which is like a Perspex material. With 5cm it should be possible. It should be good enough to make it completely opaque. You've seen examples like this in the office... And a nice thing is if you put an object on it, like a vase or some chandelier, or whatever it will just completely be lit from below, the objects will very clearly be visible and when you see it from above is... yeah the object really stands out. Basically if you use it for like art pieces or things you collect every day... I want to see the bedroom more like a romantic place; books are not interesting to me. Or maybe you can use the lowest (shelf) for that. Which makes sense because you always going to grab the nearest. Can you spin around?

10:50

Robert is having a look at the model and makes funny comments about the toilet and everyday habits. He asks for some extra dimensions inside the toilet space.

12:00

-I would quite like to silhouette this wall, against this wall. It mostly means, lighting this wall. I wouldn't mind doing it with scallops for instance. It could be like... err [sketching] There's one niche is there?

-There's one niche. Where the books are?

-Oh I get it. There's the ceiling' higher is it? Ah ok, ok. In which case I'd go for something floor recessed I think. All that basically is floor light recessed up here which basically washes that whole wall. So you see this one in contrast. This sits in silhouette which is... that quite works as idea. This provides enough light... err the reflection should provide enough light for reading but just to be sure, we just add one tiny narrow-beam downlight above the toilet, on the toilet ceiling. That should do for the toilet bit.

13:49

Let's go to the sink. Yeah, it's a niche anyway. Is there a mirror?

-No, the mirror is on that side.

-Oh this is the mirror? Ah ok. Which makes even more sense to silhouette it because... [unclear] you might need some light... there's no mirror here?

-No but some... it's open so you can change it if you want. Obviously you get to light the mirror so if you think you can put lights there, you can put on the ceiling...

-I want to have mirror here because especially when you apply make-up or when you're doing your hair or just... shaving; you need to be able to look in. This might be to look at how much [unclear] just a downlight, a tiny downlight, for the niche shining down or fill the niche anyway, it's more or less like... it's more or less sticking out, it shines down and picks the side of the niche... The only thing is you don't... want a curved mirror.

-No, no you can't, but you can have slice, it's quite wide so...

-It could even be like... this bit is shaved and this bit is straight. I'll go for that. It would make more sense in that case to do the other way round and hide here tubes... and shine sideways... you might still need a little spotlight.

16:07

-So is that a different thing you did for...?

-It's basically two things. So you got [unclear] up here, behind the mirror lighting.

-Ah, backlight the mirror.

-Is not to the mirror... is not...

-Is on the sides?

-Is on the sides yeah. Is not like those mirrors with the frosted glass bits. This is not like that.

-But the light is coming from the sides.

-... from the sides. With tiny spotlight narrow beam... for the basin and shine in the face as well. Yeah I wouldn't put more light in there, just it would be nice to have view... It would be nice... it is a bath, is not just a shower is it?

16:57

-It's a bath, yes. It's a bathtub. It has curved walls.

-I would like to things: I would like a view into the bathroom, you see it when you're entering, when you're coming from the bedroom, first you see that niche. So I'd like to have two-three ... the one is a wacky one, a bit Hugo-style!

-What is it?

-The Viabizzuno one with the light in the shower. You can see the...

-I like that one!

-I'd really like to have that one!

-Is that the Hugo one?

Joking and laughing.

17:55

-Yeah I'd just like to have it in the shower; it should have like a decent control panel. It could be the one or the other. The other would be like scalloping the niche, just basically the edge. Is there space for downlights?

-Actually there is a rooflight there. So, I doubt if you can downlights.

-Ah ok, ok. So basically lighting that thing would really suit that thing but is probably not enough. In which case there's probably space next to the... Do you know what the space is?

-It's tiny... 5cm? We can do it more.

-Is there some possibility to have a little gap at the back of the bath?

-Yeah. I think actually this is a bathtub, so there is a gap there.

-Oh that would do. It should be possible in the bath... basically [unclear] you have this edge opal. Just add the light source inside. It's basically a light source you don't really need. This could be really nice. It could be an LED source just going all the way around with an opal screen on top. So, you see that clear oval shape which will also give a glow to the wall. There is no space in the skylight... Otherwise you could think about having some fibre optics but it would be too much I think.

Robert asks if he can accommodate fibre optics in the room. Interviewer says it's possible and Robert resumes for three sources in the bath tub, the glow in the bath contours, the fibre optics and the glowing shower head by Viabizzuno. Makes a sketch that depicts all three ideas. He refers to controls and colours of the bathtub scheme saying that blue colour is been overused so he would choose green.

23:26

-Do I need... (are there) still areas I missed?

-I don't know if you want to light the external areas?

-How do you approach the building?

-It's from there (pointing).

-From there... not from the other side?

-No, this is more leading to the garden.

-Can you show me this area? (entrance yard). Can you see that from the inside?

-You can see (it) if you look down from the bedroom, yes.

-Ok, it would be interesting to have this here as well. But actually this can be used as a pathway?

-Yes.

-Is that above a balcony?

-No, it's just a canopy. Yeah, just to protect from the rain.

-If the light comes from here and from here it would be all right to find your way easily in here. This is not really being used?

-It can be used maybe in summertime or the spring you can pull things (out) there.

-Ah ok. Not really as a terrace or so. You're probably going to use the other one.

-They are all connected in that sense so you can bring stuff there if you want.

Robert asks to see under the passageway.

-Yeah (I) should do something with light in the passage. It would be quite nice to have this wall shorter than the other one. It should... I think it would be quite nice to have that lit. Either painted in a colour (and) light it. Or have some coloured light on it. I suppose using with reflection plane. Can I say something about colours as well or is it more...?

-Yeah you can. If it's part of your idea.

26:36

-It would be quite nice if the finish of this wall is white and this one, will be coloured.

-Ceiling and wall? Or just the wall?

-No, just the wall. The reflection... this will be lit from here... [Sketching].

Robert is sketching the idea and explains the effect he envisaged is more or less a wallwash effect on a coloured wall.

...fittings in here which will wash that wall. And reflections which will be visible on this wall. If this is a strong column, this wall.

-I see what you mean yes, so it will be like wall washing...?

-Wall washing yeah. And it should be rather 'light colour'. If it's blue, the reflection will hardly be visible. I guess it will be the same thing as 'blue light' at night. Your eye easily can see it but it doesn't provide much light to be honest. It's clearly recognizable; doesn't reflect much of course. I'd have more like a warm colour... like... pleasant... Because it's a underway passage, how you say it... It shouldn't be gloomy at all; I should be pleasant. I think it should have that emery-orangey colour. It would be easy just to paint it a colour and white-lighting it.

28:33

For the terrace up here, there probably be some pot-plants up here and then we could think about... yeah. Pot here and planting we'll just having some pin-lights, shining on that one. Just simple... [sketching] tiny projector shining to the leaves and the branches. It could be nice. (I'm) not really sure about... Yeah maybe one just to have some reflection from it. So one would be enough for... let's shine (on to) the big one (tree). Just to get a bit of a glow in the area. It will reflect on the walls, in this wall as well. [Unclear] in which case we would go for a candle on a table, rather than...

-For a what, sorry?

-A candle on the table, a glass lamp something smaller... outdoor-ish, instead of like... I don't really like proper fittings on the terrace. It doesn't really fit. It's not looking good... I think that's it.

-I think that's it, yes. Thank you very much...

-It's nice. I liked it.

Closing interview

-It's really nice. It picks a lot of nice living surrounding. (I'm) not really sure about (the) two seating areas... that's close to the centre and... facing the wall!

-Facing the wall... yeah, I know.

-One last thing... I might be tempted to use light in those niches, are those niches as well?

-It's a library... Lot's of libraries in the house! It's a built-in library, yes.

-Ah ok. Can you show (me) that? If you do have books is nice to light down those. How high is the ceiling up there?

-It's 2metres. From there, but obviously (down) here is 2.35m.

-In which case I'll just like... just wash them... wash that whole section with the books.

-Wash lights then?

-Yeah... If you try to focus it, it just hits... it doesn't hit much lower than that. It's basically hitting this part; which will give a bit more ambient light up here. That fireplace will probably be a proper one... so I don't have anything to do... I wouldn't mind adding a... it should be a bit architectural, it should be like: oh we couldn't find a solution, just add a fittings under there. Which might be looking crap so... for that... Can you zoom? Can you go to that area? Ok... yeah. It's more or less going like this, isn't it? [sketching] The couch is a bit like this, I think and the it goes...

33:00

This is a really square element so I had to go like... square fittings, square wall-mounted fittings which is basically... a cube and the wall is here... and the couch is here... more or less like an architectural element. (It) will light here, which just shines under, which should be a directional one. I would prefer it (to be) like more or less like iconic rectangular sticking out of the wall. And maybe going past it looks like ... if you just plaster it as the same finish as the wall, it will look more if it's an architectural element rather than an fitting attached to the wall. Probably a Modular style of fittings.

-I think it looks more like Modular and Delta.

-Yeah... the Belgians...

Closing down the discussion. Some friendly talking.

PART ONE

-This is how you would see through the three doors if you were standing from the back, three portals, one there, one there and one there...

-And that's all exterior space there?

-That's all exterior, so basically, your entrance is there, and your exit is there, and it makes that corner, like that, internal.

-OK.

-If there is any corner that you think you can...If you want some minutes to understand ideas then OK you can come back when it's more convenient for you.

-Does it depend on me knowing quite well... I guess I don't understand things as quickly as say Paul would.

-Well it is important for me that you understand how the space is structured, so, what's the best thing for you?

-No, I don't mean...as long as I know what's going on when I look at it.

-You can also propose crazy stuff if you want to....and you have pencils, and coloured.... if you want to differentiate different types...

-So, am I drawing on this?

-Yeah, this is for you to scribble on.

-OK, so I'm allowed to use colours, am I? So, if I use colours, they won't necessarily represent what colours I'd use.

-No...this is for your....this is the reason I'm recording. When you say something and I don't understand, I ask you and then I have the recording and I have the sketch, so those things together...

-OK. So I can say...Maybe the first thing I'm going to do, would be to uplift them, with small...so inground, recessed LED fittings, so to wash up the length of that, those verticals. And so...am I allowed to make up who I'm making it for?

-Yes, you can.

-OK, so I'm saying, they may be a bit old, but they're artistic, so they don't mind a bit of pretentious things.

-No, they don't. They're quite rich and they're very well-known artists, so they have this residence in the countryside to isolate themselves and create.

-OK, so I'd put LEDs all along there. I'm just wondering if I'd put them on the other side as well.

-The other side, you mean....

-Well, as in, so would you put them on that side too? So is that...that's just an open gap, isn't it?

-Yes, and they...I'll show you on this...they do have an ending, which is a concrete top. OK, so you have this concrete L thing and covered obviously because if it's winter you're not supposed to be exposed in the rain and inside they continue up to full height...

-OK. Well, I'll decide if they should be lit the other side later, but I would carry that on through the house. But I might have it in colour outside, but not inside, I'm not sure, actually. And then workspace, that's just a doorway, isn't it? OK. Well, I suppose the other major thing...I suppose I'm thinking...I'm not thinking functional lighting at the moment, I'll just tell you. I'm thinking, so I guess, if that's glass there...does that walkway go from there to...OK, so I would probably up light

the glass with a linear recess beneath the glass, I guess. So it's just very even, like a flat surface, and that doesn't carry on there, so that...

-No, it's a landing.

-So that goes up there. Is that all glass?

-This is the glass, and that. This is just a big landing.

-OK. Well I'd just kind of subtle graze of light up there. And over the work space I would probably, I would have desk lamps there, for however many chairs there were and then is this just a plain, flat wall, or has it got...?

-It's glazed. A window there.

-Oh, sorry. OK, so desk lamps, I'd just have desk lamps there.

-This line is only for the dimension, right, there's no furniture there.

-OK, so what's he doing?

-Nothing, he's just looking out of the window.

-Sorry, I assumed he was looking at a....

-I didn't put any furniture in there.

-OK, no furniture, right, sorry. I'm imagining furniture.

-You can put lighting for furniture if you think...I just didn't put them there on purpose. It's sort of leading if you put furniture there.

-Well, if I was in that work space I would want to be looking out of the window, so, if I'm allowed to put a desk there...could I draw that? So, I'm to assume that's a very plain wall, or...it depends if there was going to be furniture there, I guess.

-You could possibly have it, because there's almost a meter, so you can have a desk if you want to.

-OK. Well, if there's nothing in there in particular, in that case I would have a very thin strip...

-Is that on the floor, on the ceiling?

-Sorry, this is inground, recessed curved, very narrow...fitting which would wall wash up to, I suppose...how tall is this space?

-5 meters.

-5 meters, so reasonably powerful, so it would wash around that curve, I guess. Can I write? OK. To nearly full height, but quite subtle, not too bright. Then, seating area, so that has a big sky light, so I guess I would have floor standing fittings, one there...well, what I'd imagine would be (27:25 drawing), so that would provide low level cozy lighting I guess, and probably that would be...oh, no that's the fireplace...sorry.. If I can move it...so where would I put it then...So that's low level wall isn't it, there?

-No, there's no wall...just steps down

-Steps down, right. OK, so there's not really a place for...

-You can take a seat out if you want, or you can alter the walls also...

-OK, so maybe I would take out one corner seat, maybe there. And then, I'd probably want to do, because that's a sky light, which is going to change colour with sunsets or whatever I would probably want to do something nice around there, maybe something very thin, recessed into there, just following the square. So, the reason for that would be a single colour, but changing

slowly as the sun sets and the colours change, so basically you'd think it looks pretty against the...?... of the sky. I'll write that down.

-How do you think this is going to be incorporated into the roof light? Is it going to be up, down, recessed...

-Well, I was thinking channel, but...so if that's the roof light, the edge of the roof light...actually, where would I do it...What was the depth of that? So that's...is that the glass surface? And that's just the edge of there, so it's that bit standing up from the top of the roof...

-It's two glasses probably, one flat, and one for protection, in case...

-So in that case maybe I'd be naughty and cut into here ...although this probably isn't a very good working section at the moment. So I would recess some.... (Unclear) so that it washes up there...

-So you've cut through there?

-Yes, basically cut out a section. So this would be the solid part. And that would be so that that is hidden, the view of the lamp, but you can see the colour wash from below, all around, that would be. Not in red...so that would be available as an option if they wanted to have it on at that time, so something that changes colour, just something to see the square of the sky against, basically.

-So, do you imagine the glass to be frosted for the light to hit on there to be visible?

-No, I imagine that the light would be visible on this surface and hopefully it wouldn't...yes, that's a good point, hopefully it wouldn't catch on the glass. So that's badly thought out. Anyway, so it would be directed here, so it didn't particularly spill onto there. Very bad. Something like that but without, so no light spill over here.

-But you still wouldn't see the frame of that because you would see from perspective...

-So I guess when you look up, you'd see, light, but you would not see any light on the glass. So that's a view from there. OK. So, maybe just for fun as well, so that's the main low level source of light, maybe just for fun in that case I would...around the corner of the seating...recessed again, so what I want is bands of colour, sorry, not bands of colour, just bands of light. So, if the seating is at this level. Above...yeah, basically stripes, I don't really want to see anything of the surface, so that would extend, so if that's a wall, that would be on this side too. So that would be very, so that would be warm, white and maybe in section it would be something very tiny, like that, so, the wash would be, so that would wash. So basically it's very linear but kind of soft and low level. Shall I write that down?

-And I guess they would stop up to the door, right?

-Yes, so they would go along there...For the fireplace...It's going to be very warm...your books. OK, so this is the other living room, there's no real, so the wall there is just basically the height of the seating.

-This is not very high because the seating is already sunk.

-OK. So maybe in ...how tall is this library section here?

-It's about 2 meters.

-So it's basically a big wall of books. Have some, recessed into below the furniture, or in the furniture, so some very gentle floor wash and that would go around the whole lower space. How's the furniture? So I would make your furniture... just a bit raised, basically. And some form of hidden wash coming from somewhere. So basically, that's just a gently washed floor and then I'd probably want to do something with the bookshelves. Are the bookshelves in there?

-Meeting the wall.
OK, so...

PART TWO

-OK, so I think I would have, behind the books, in the back of the bookshelf I would have...it doesn't really matter if it's linear or point source, but I would have something that washes up onto the under side of there...

-The shelf?

-Yeah, so, you have the books in front so there'd be just light behind all of the books.

-Can you give me a detail of that?

-Yes. It's all going to be linear. I've decided they like abstract art so it's all going to be verysurfaces, by the way. So that's behind the books, that's over here...onto here, so that will wash up and wash along there. And the books are obviously there. And so I guess the reason why I say that is so that they're lit, but they're not lit from the front because that would make you feel like you're in the library in college, kind of thing. So I suppose so it's not too (indistinct speech) kind of subtle. And then, maybe I would put some down light there, just to give him some sensible light. They'd be dimmable, soft warm light...OK, kitchen. So, that's the view. That is built in...

-Yes and the kitchen is built in and there's an extractor fan on top of the oven...

-The oven which is...OK...and then this space is...is it really tall?

-It's 4 meters, relatively tall.

-Yeah, it is tall. Well, I would have down light here...so they can see when they're cooking and ...is the extractor fan just there? OK. I would have a light ...OK, niches. So, that's obviously the view. That's nice, I won't interfere with that. I don't know, I think putting a niche light in is a bit excessive for a kitchen, but if they're rich...

-Excessive, how do you mean?

-Well, I suppose, to have niche lights in your kitchen I would consider unimportant, however, maybe they would like some coloured niche lights. Maybe they would have niche lights...

-So you dislike this lighting, but you think...

-Well, yes. Not that I dislike it, but I would usually see it as unnecessary, but because they are there and they're curved and nice, so they're a feature, I would maybe make ...maybe I would actually have...so instead I would have...so if this is a niche, they're not curved at the top, are they? They're just straight? OK, so I would make my shelves out of glass and I would light them from the back, following the niche, so it would basically be edge glowing glass. I can decide how many shelves there are, can I? So they're going to be stripes, and depending on how full they are, that would also be lit. So maybe they would be like really proper old fashioned glassy green kind of thing. So they'd be...glass green, and not too bright, just soft light through this...OK. Then the other thing is you could just up wash them and then up wash all of them so you had a continued view...

-Up wash them, you need to put a down light, you need to put an uplight on bottom and wash up.

-But then they're only...they're coming from the floor, aren't they, but these are coming the kitchen...I'd do that. OK, so that's OK. Then, I think I would not light the tree, because, well obviously it looks like it's in a natural place so I would prefer the tree silhouetted against the sky, rather than an uplit tree blocking the view, I think. And then this is the corridor leading to outside, that's already exterior, OK. OK, so shall I go upstairs? OK, so the stairs, I don't think I would light them. I think because they're like linear and plains and surfaces, I wouldn't light there.

-What do you say, they're linear?

-Well, because I've decided they like linear, so linear surfaces, linear surfaces, so lit linear, flat planes basically, so they do not want a big spiral staircase lit up. That wouldn't look nice. So that would probably be up lit glass from below. So as functional lighting on the stairs, so this is full height, isn't it? Then there's a light there isn't there? A sky light...Well, I'd want some kind of functional lighting on the stairs but I haven't decided what. I guess you could have down lights here. Or I'd like verticals. Maybe it's every other stair vertical.....So, you said it had a banister?

-A balustrade.

-A balustrade, sorry. And does it have the verticals?

-It's solid.

-Solid glass?

-Solid concrete.

-Solid concrete, OK.So it just wraps around. Well, maybe, what would I do? Well, I could light it, up light it, I guess, and that would look nice, but because I've decided it's going to be linear...maybe I would put light in the central column. So, central column...maybe I would have recessed small squares following recessed opal, rectangles, kind of following the steps basically. So if the step was there, the rectangle would be at that height, so it would give a bit of light down. But it's more of an opal surface. And that would twist around so...following the steps up. That would be bright enough to be functional. Then, coming through here...so that's translucent...and how tall would that be then? 2.8 OK. So then I would just have...this is inside...so basically more thin linear lit canals and that would up light the fabric so graze all the way up evenly. Light graze up fabric.

-But only inside?

-Mmm. Is this glazed here?

-Yes. Imagine sliding doors...

-Oh, I see, so it's like...shoji? And that goes down into...OK, so that's translucent to downstairs, isn't it? So the light that's coming through them would be from downstairs? Right, in that case I wouldn't do that. So, if it's like paper like shoji, then I probably wouldn't light it.

-Not necessarily paper, just imagine something, it could be a pattern, like leaves on plastic...or it could be something very plane...It's meant to give like semi-privacy..

-Oh, OK. Well, if I could light up through it, that would be fine. I wouldn't light onto it from this side because that would be silly but I don't know if there's anywhere...

-Why's that?

-Well, because if it's something that's semi-translucent, considering they like linear planes, they wouldn't want big splotches of light. So it'd be more like a surface, but transparent things are better lit from the back rather than onto, so if there was space there...otherwise maybe it would be ambient light from other spaces. But if it was, if it was a material where there was a space underneath...I guess I could light that bit.

-You could put light on the rails and continue it...

-Yeah, so it would be recessed below so it would glow up through. It really depends on what material it is. So, either it would wash up through the material and have a glow at the bottom, somehow, or it would just have, if it was semi-translucent, then that would be enough privacy and just the ambient light would shine through. And there would also obviously be ambient light coming from there, so that would go the other way through the translucent material. I'd have one tiny down light in case there was not enough light ...So, is that shelving?

-That is a wardrobe.

-OK. I would have that glass...there's a kind of glass that you can turn off with electricity, there's a way to make it either glowing, transparent, or opaque...So, what's it called...electro-controlled glass. I can't remember what it's called...

-Electro-luminescent?

-No. This is a silly idea.

-No, it's not silly...

-So, what I was thinking...whatever this kind of glass is, there's a way of switching it with electricity, so you'd have, you'd be able to see your colourful clothes sometimes and other times it would be a flat surface, so you could switch...

-So one hold is transparent and the other makes it glow...

...switch transparent. I've seen it, because, you know, for like office windows you can have it, and sky lights too, to control sunlight, and for privacy. Because I think sometimes it's nice to see your clothes, and since that's a big feature, try and keep it. So, when it was solid, it would be like an opal kind of glowing ...green or something and then transparent would be grey with colours. And then...what are they?

-This is the niches from inside.

-They're bedside tables. So I would give them wall-mounted LED reading lights. That's window isn't it? So...I'd also maybe give them some down light there, so they can see when they want to, for functional lighting. Maybe not at bedtime, but in the morning when they're getting up. So that's an unobstructed view out, isn't it? And maybe I would put very small in ground up lights to describe the window. So I presume that's just a big, square window. So, I'd just make an up light that would catch the ...?...in the air and then catch...going across a bit at both sides. They wouldn't have to have it on all the time. It'd be optional. Have they got curtains?

-They do when they furnish their house, I don't know later on...

-At the moment, they're going to have up lights there to describe the square and also to set the colours of the sky against. They wouldn'tall the time. And then the WC...I would have, well I presume they would have a mirror so they'd want to see themselves.

-The mirror's on that side, it's full height.

-I'd have one down light and maybe ...so, thinking that they obviously want to look good, I'd have a version of the dressing table...

-The old-fashioned...

-So, where you have multiple sources and ...

-Where are those mounted exactly?

-So they would be mounted maybe on, either on strips, or maybe, so they'd be recessed into the actual mirror, so there'd be a hole cut out, and the light recessed into it, or they'd have strips down the side and just be mounted there. But they wouldn't be huge...maybe they'd be the very small tungsten, you know, like the capsule, with some kind of cover, to stop yourself burning, so some kind of probably tungsten source, small point lights. So, if that's the sink, I would have one down there...I think I would, I think, 'cause they're adventurous, around the side of their bath...I don't really like colour. A lot of me doesn't really like coloured things, but if it was used nicely, I think I would have the walls to this made out of lines. So, I'd line the walls with a really nice Perspex that's really lovely colours, not really bright colours, but, so subtle coloured Perspex. I know you can get them in all kinds of complex shades, so it's like, ocean green, very subtle shades. Then I would have some kind of linear light that goes around, recessed beneath the Perspex. So, if that's the Perspex, more up lighting of the Perspex. And then that would be in colours that were complimentary, so the colour change, but complimentary to the colour of the Perspex. And then the idea of that would be so you're kind of in an enclosed colour space whilst you're bathing. And then cupboards, I would do ...maybe more linear strip...recessed in there...

29:12

-On top of the cupboards?

-As in the living room, same style. And then, so there is a corridor here, a very long corridor. So that's glass door, isn't it?

-No, this is the glass door, and that's...

-So that's glass door...so when you come in there, you can see...OK, so, when they've got guests to dinner...I would put another linear strip so it's a linear wash up the wall so that you could see from there, so it would start, so that light would reflect onto there as well. So you would see linear, linear, linear...you'd see straight through there...and then out. And then if you're walking around the property...

-Do you think... do you imagine this like a cove, that it has a diffuse panel or like a hole that washes down the wall?

-I imagine this would be at the base of the wall again; it would be...more recessed, continuous...

-Do you have a purpose of putting it.....was it purposeful to put it on the floor...

-I suppose so, because that light's coming from low level, ...so what I'd imagine, when you come in, you would read these linear...so because that light coming from floor level...so it would be like a line, in a way, and it would be the same colour, but a kind of changed form, so that would be one long, solid surface, just so when you walk in you would read that as ...

-That's a very good idea...

-So, exterior. I would put very small in ground up lights in each of those coves...so I'd put, this would be...so they wouldn't be very bright, but that would catch along there too. Through there...so that light probably wouldn't spill very much, you'd only really see it when you were walking through...maybe subtly from the side you'd obviously see it, but not too much. What does that say?

34:00

-That's the projection line of the...it should be dotted...

-So then, so that is a wall, or is that not a wall? What's that? It's a double line...this one...

-It's a bench.

-A bench, OK.

-Not a bench exactly, a sort of ledge.

-OK, well, for when they felt like it, not all the time, so this is the covered bit, isn't it? From there to there is the bit...

-This is the roof...

-So this bit here...

-Is where you find those projection lines. They should be dots...

-So, then there I would have more linear wash light and that would be in say in a pink or orange, not garish. So that would be, so the reason for that is so that when there's, so at sun set, when there's colours, nice colours in the sky, you'd see nice colour-lit planes there. If you were sitting on this bench. And then I might do the sameso, up lit uprights, what are they called...so then the idea of that would be when you look that way, you'd see, you'd look through that space and beyond that you'd see another shape there. Your evening view.

-Very inviting.

-Do you think that's enough? Have I missed anything? I haven't really looked at them. Does that matter?

-No...

-Alright, wall niches, wall niches...I think they're alright.

-Can I ask you something general...you said you wanted to leave functional light for later on, how would you define functional light?

-So, functional light is for, so for example, well, you can see where I haven't got it, in places like the kitchen where you need to see, it's much more pleasant to be able to see what you're cooking, and ...

-So you'd say ...down light...

-Yes, to me, they also...if it's?...it's also a nice feeling. I suppose...to me that is more feature, and then down lights and bits of ambient light too are functional light as well, but I suppose when I know there needs to be extra light for what you're doing...

-So the ambient light, you wouldn't necessarily classify it as functional, but it can work as functional...

-Yeah, it can work as functional, but...I suppose...there, so there's, so that would be the functional light for that space in a way, although it's also ambient, you know, give a nice feeling. That's functional, that's functional there, and then in the bathroom and the bedroom, so down lights are functional to me, I guess. But they also look nice.

-You've chosen mostly linear light, is there any reason...is that your general preference or do you think it suits the scenario or suits the residence?

-It's partly my general preference, but I think because... I'd kind of decided what the couple were, so I decided they were artistic and abstract, so I think, because of, maybe from those that I chose that this would be a more linear space, and then these, if that's glass, then yes, there's a number of quite linear...and this is quite linear too, so I think, yes, the form of it made me decide there's more linear opportunities. But I do think I do prefer linear washes...I'm not very big on scallops.

-Why not?

-I don't like them, I'm not really into that...I suppose it's like a style and not...so when...like decorative scallops, I'm not really into,

-So you think they're not as a necessity?

-Yeah, I mean, I think it's nice to up light a column like that, but I don't think it's really nice to light a wall with a series of scallops. In my personal preference, I think it's a personal preference thing, so it's more like I think of it more as planes than decorating the surface with patterns of light from the light fittings.

Closing interview

PART ONE.

00:00

Briefing takes place

16:35

-Do I need to be thinking about the outside lighting as well as the inside lighting?

-Only if you think is necessary. If you don't think that you don't need to light (it) then don't. But it can (be) very diagrammatic... just ideas. Nothing more than that.

-Ok. So we've got first floor plan... (Browsing through the drawings). Is this supposed to be spiral stair?

-Spiral stair, yes. And this is a skylight as well.

Explaining the set of drawings. The section though the living room across. Sean asks about the accessibility of the roof. Some explanations about the skylight detail and rough dimensions. Some talking about the procedure and use of pencils and colours.

19:28

-What height is here again?

-It's double height but there is no furniture arrangement; on purpose. Because I found out that designers tend to put fittings on top of tables and that would be very 'leading' so I tried to avoid that. So it's just (for) people to do whatever they think.

-It's presumed I can recess into the ceiling? There is no restriction in the structure?

-Yes. There is no restriction. You can even change the structure at some point if you want. Because it's supposed to be at concept level and the architect has opened his ears to everything. And there's no budget, or... there is no restrictions about quantities that you need to worry about.

-Ok. Can you walk through here?

Sean draws axes lines with his pencil.

21:49

-These are steps up?

-Yes. I forgot to tell you that the workspace is recessed by two steps down. This area and this area. It's only a tiny difference.

-This is the bridge over to the bedroom?

-Yes. It's open plan.

-Is there a soffit over this part?

-Yeah.

-There is?

25:58

-Are you thinking or is this your final marking up?

-No, no. This is... I'm just thinking it through.

-All right.

-I'm looking at the options; I'm looking at the architecture, what the possibilities are for each of the space. And if I could connect all together. And (I'm) trying to relate the position of the lighting to the architecture. To the central line of the corridors, central line of the doorways. Looking at the practicalities of where the task light needs to be for example in the kitchen and how that might relate to for example that niche in the wall. Maybe these task downlights should be centred on that niche. Not that you ever really 'read' that, but it's just trying to line up as much as possible. Because the building is very modern, is very straight lines, apart from this (workspace). There it's trying to make everything fit in, line up. So I'm just thinking it through and seeing how, what the ideas are within each zone and how I might follow through. So you come up the stairs, walk across... That's a sliding isn't it?

-Yes. Sliding doors.

-You walk into this hallway? Then you walk through here and round down there. Presumably there will be blinds or curtains on the windows? Maybe, maybe not?

28:19

-Maybe. Well it wouldn't hurt anyone because it's in the country side. Unless someone is waiting for hours outside the house to see...

-Where is the roof plane? So, that's the rooflight there is it?

-That's the rooflight on top of the bathtub.

-That's the outline of it?

-Yes.

30:00

-Is this a step?

-Yes.

-That's a void, yeah?

-Nodding. Its five metres.

-It's all void except from...

-Yeah only the bridge and the landing.

-But it's inside, is it?

-Yes. Internal.

-And this wall... what height is that again?

-This is 40... it's only defining the boundary of the yard.

-Are these openings full height?

-No they are like normal doors. 2.20(m)... 2.40(m).

-This is a solid wall?

-Nodding. This area doesn't have a window at all.

34:00

All right. I'm gonna mark something up in colour. Can I use a pen or a pencil? I need a quite a red thin pen.

Handing out pens.

-Is that up or downlighting?

-Up. I'll come on that, all right? So I'll put notes here. Let me get the basic layout and then I'll go through it, Ok? Can I do that? I can change the structure can't I? So I can get myself a cove light in there. In fact, what might be quite nice... it's behind the seating, brightening up the wall, then if we have some artwork on the wall [unclear talking to himself]. I want to 'tippex' that out. I'll get some tippex.

-You can delete it... don't worry about being clean and neat.

-No, I like to be clean and neat!

-Ah ok.

-It's only conceptual right? It's only the ideas.

PART TWO

00:00

Helen comes in. Small talk and laughing. Sean asks about the figure of a man in the workspace and re-confirms the double-height of the space. Confirms that the dimension appears as a worktop line. Asks about the glass balustrade, confirms its material. Asks for side tables in the bedroom area. Also asks about the steps before the bathtub.

Sean continues thinking and marking up with pens.

16:39

-Can you show me what... there is a retaining... something around that, isn't it? Around the tree?

-Yeah.

-Ah, yes. Can you sit on that?

-It is too thin...

-Could you potentially extend it?

-Yeah. You could make it... I think there is an opportunity to sit there.

-Ok. I'll tell you what I'm going to do. I'm gonna mark, I'm gonna show that there is an overhang here, you can sit in and then I'm gonna hid light underneath so that it washes down the floor. So that would... [unclear talking to himself].

28:08

-Have I missed any areas that I should...?

-I think it is... [Unclear talk]

-...dark there.

-Is this a downlight?

-That's a downlight to give a pool of light on the floor. So when someone comes to the door you can see... If you don't have a light there, there's nothing lighting the person's face so don't see who it is. You get some reflected light from that and from that, but I'm worried it's not enough. And you should have one there, but then it's... 'cause this one would do that. If I have one there it's going to clash with... so I took it off. [unclear] some 5 amp sockets... That's a fireplace, isn't it? So it's hardly likely to have...

-I guess it's one of the... it needn't be so long so...

-Maybe if that was cut back a bit you might get one there. It just depends on the final layout. [unclear]. Do you think people will spend some time up here?

-(They) might do in the summer.

-Ok.

-For occasional (lighting)?

-Nodding. Might bring out chairs or a table to dine out there. So they can plug in a light. Stair roof... What does that look like on the top?

Handing in the detail in the relevant section drawing.

-Ah, ok.

-That thin line is supposed to be the glass.

-That's the glass. [Unclear talking to himself].

Brief joke and laughing.

33:53

-Ah, I didn't notice that (alcove by the wash hand basin). I didn't look at the sections well enough. We can do that. So that's not a full height wall?

-No. All of the 'T' structure is...

-Yeah. [Unclear talking to himself].

PART THREE

-(Regarding) the lines that you drew in the beginning, you divided the spaces in to axes because you think in symmetries or you think in... err...

-You have to work with the architecture, so you look at the, as you say, the axes lines, the central lines, the symmetry. It splits up the space, what you view... look at your views. When you look through this door, what do you see? So it's all about viewpoints.

-So you're thinking about the major viewpoints?

-Yes.

-Which are... this (one) and the on the vertical...?

-That's right. Yes. And you can't always use them. But you've got to start off just trying to... 'cause quite often, a modern piece of architecture is built on a module. So you might find there might be a series of doors which don't look fairly connected. The ones you draw the axes, you find that they're equally spaced and that gives you a clue on how you can set out your lights. Cause a building like this is all about integrating with the architecture. And so the light in the ----- must be ---- of your architecture. If it's in the ceiling or in the wall, you have to try and create a rhythm and line up with the key access points in the building. That's how I approach it.

-If it was a historical building then it would be a different approach?

-It's a different approach because you're dealing with a lot more decoration, a lot more features that may need lighting, different opportunities to hide lighting. There are no opportunities apart from what you create in the niches in which to hide lights. And it's a different approach. There will be different finishes... you know a place like this is likely to be white walls, stone floor... An architect

who designs this is not going to have pink walls and guild... you know ceilings or whatever. So, as much as I know, obviously the owner can do whatever they like to it, but if the owner wanted something wacky, they'd probably wouldn't have designed the house, or have an architect who designs very modern structure.

-I've seen that you used on the corridor, on the one side linear source and on the other you put those uplights and then you complemented the rest with wall lights... so is there a meaning behind that? Is there...?

-Ok. So, the cove light is to...

(Interruption by sound in the background)

-So the cove light accentuates the linearity of the corridor, that connects the outside to the inside, so as you approach the house, you get a view, your eyes led by the light through the glass, all the way through, so the whole corridor is connected. And that will give... and that light source is concealed so it will give some architectural accent to that wall, and then these are at low level and these give you pools of light. So they give you visual interest on the floor. Ok? They give you pools of light. And then these are really to accent the fins. So they pick up the fins. And they may be in a different finish to the walls. The idea is that they accent... so the spread of the light will pick up both faces of the fin. And maybe as you work through the design it might be that this is not appropriate; but as initial ideas, you have to think: well, this is a feature which occurs outside and inside, so again it's by connecting two spaces. And just trying to find a way to locate fittings, so this is single height and these are just lit from below, just as a feature. And this is double height... is that double-height? That's double-height as well?

05:19

-Yes.

-So these are lit from below and above and there will be fibre optics there because there's no heat from fibre optics, or LEDs, so it's not a danger to children crawling on the floor, plus upstairs on the double-height space, you can locate the fibre optic generator in an accessible position so you never need to get up to the double height ceiling to change those. So that's the reason doing that. So this is your main access, so there's architectural illumination, there's visual interest; it leads you in from either side.

-And you followed linear light to that wall and also I've seen (linear light) upstairs. It's on those opposing walls...

-Yes. So, this is double-height volume, so you have to think. I have to think 'how do I light this volume, how do I give this shape, three-dimensional shape'? The architectural shape is from the curved wall. So if I stand --- and see the curvature of the wall at night, ---- this line of light and then in front of that, there's a feature pendant, so that gives some lighting element to the top half of the volume and it kind of contrasts with this. This is a solid piece and this is lit piece. So we have two elements within this volume, contrasting. We get the whole perimeter of this volume as defined and it is punctuated by this, and then these are to light possible artwork, so someone who owns the site might have a huge painting, or tapestry or something, so that might be the only place they can hang it. So this washes that wall and allows it to do that.

-Ok. Do you imagine the downlights that you put in this and that area, wide-beam or narrow-beam?

-They will be medium-beam, but they'll be set into the ceiling, so that you don't get lots of glare. So they'll be chosen to give the right spread.

-You want the pools of light then? Or you (mean them) to mingle?

-You have a circular beam of light but they'll need to overlap. So you'll get continuous effect. But obviously it needs to be worked out.

-No just wanted to find out what's the effect you had in mind.

-Yes. No I wouldn't... on a kitchen work surface I wouldn't have light-dark, light-dark. It's not good for task 'cause your eyes got to move between on e surface and the next, so if that's bright and that's dark, it's not good for your adaptation. In these other areas you can be a little bit more moody and create a bit of... but in the kitchen you need good task illumination. So lighting in these niches gives you some interest in the vertical plane there. But you need good light over your kitchen work surface; that's the key thing.

09:07

-Ok. You put fibre optics there...

-Yes, that's as you walk into this quite private area, then as you come through the door, then there's some feature lighting and maybe that twinkles, shimmers, maybe it changes colour a little bit. Maybe it softens up the area into that bedroom.

-Sort of like preparing you for a more intimate space?

-Yes, yes. At night time and... calm...

-And you've highlighted at low level all these steps in here and... no you haven't...

-Not everywhere. That's underneath the seats so that it gives a bit of wash over the floor, cause there's nowhere to put any table lamps or floor lamps, so that's concealing that in there, just to give a bit of wash of light, to give some light on to the floor and that... You see that surface is quite well lit... Here yes I've tucked light underneath the steps just for safety. You don't want people to trip on...

-Ok. It's functional then?

-It's functional. And then that's more again, feature light within a cove, just to light that niche and that could be colour changing light so that when you're lying in the bath you can have light changing colour and you can just... you know...

-It's something similar to the large scale walls...?

-Yes but that's always... that's white light. That isn't. I mean it could be colour changing

-It's not colour changing but it reveals the walls as you said... as we're looking from downwards, upwards.

-Yes, yes. Exactly. (It) reveals the architectural shape. And that's a bit of... a bit of fun really. When you're in that recess in the bath, it's quite a contained space and you can hide some colour change light up there. It gives a nice feature.

11:11

-I think you put some washlights there, which is very straight-forward... washlights, washlights for artwork... err floor standing lamps, err is it downlights in the niches or...

-Yes, looking at the elevations I think, because of the height of them, I think I'd rather... initially I had shown something just to cross the top but they're too high. So you need some light to punch down and then I want some side light as well. So it depends on whether the shelves are solid or whether they are glass. Because it might be that the shelves are solid in which case...

-Is this linear?

-Yes it's linear.

-So it goes all along the height...

-I've marked it on that. Ok? So that's the idea. And then lights up the wall.

-Another thing I wanted to ask you: I've seen that you continued this effect around the wall...?

-So again, that's the inside-outside effect.

-So you imagine it as a unified space?

-Nodding. Yes, I mean it may also be that when you look out here there may be some kind of sculpture, I don't know. And who the owner of the house is. So there maybe a need to have some sculptural lighting or something set into the ground. That really comes later. This is just a suggestion in order to connect this wall to this wall. 'Cause the wall curves through the glass and out again. Even though that's full height, there is a connection between that wall...

-You use the same 'connection' by lighting the tree and providing... connecting the inside of the kitchen...?

-Yes. You have a view out at all times, day and night, to some feature, instead of it being a dead space. It's quite important in these locations, at night time without lighting there, it would be a black hole and all you could see is your reflection, yourself in the glass. So we have a tree, we've got potentially a little bench seat, someone could sit out and drink, so we can illuminate that area and we can also have a feature... view through...

13:55

-All right. I think that's pretty much what I wanted to ask you. Yeah, that's very clear. I've got the descriptions. Ok that you for your interest.

Closing interview and thanking

14:18

-It's good to be presented with something and having to come up with some ideas straight away. It gets your brain thinking about it.

Explaining a bit about the project and objectives.

-It's ok once I get in straight in my head; it's not so difficult for me to come up with the ideas. You can come up with lots of different ideas but it's picking the right ones to gel together and then of course the next stages to refine them, to the client and the architects... Vision...

-I'm interested in the part where you're putting an effect into a solid space (surface) and you're saying: 'I'm doing that because I wanted to do this' so it's the intention behind choosing the effect.

-Yes I was thinking it through and for everything I show, there's always a reason for it. And it's thinking about each room in three dimensions and what uses in the room... what needs to be lit... what are the tasks, or can you integrate light, because it's a modern building therefore concealing as much light as possible is what we should do and...

-And you've given a lot of flexibility because I've seen that you've got a lot of sockets and free-standing lamps...

-Well if this is a workspace there might be... someone might have his desk here, so he can look out, so they'll need to have task lights, usually you need to allow some way of softening up. Even if these are modern opal glass free standing lights, it's just giving a glow of light. You can't really rely on downlights everywhere. You know, this is somebody's home, so they need to feel relaxed when they sit anywhere they want, reading light or... I want light at low-level, to make it more intimate, not all the lights coming from above and of course when you do this you just set...

-So, is it the level that causes the intimacy...?

-Yes. The lighting... when you're sat, you need the lighting around you, not coming from up there.

-It's an interesting point of view.

-And it needs to be soft and it needs to be... lighting which doesn't give you any visual discomfort. So you have to remove glare, so that's picking decorative light which give up glow and which you

can dim, concealing light sources in cove so it's reflected light, if there are downlights, it's setting the lamp above the ceiling, so the light comes through a pinhole...

-It's the dark light technique?

-Yeah. Dark light. So you minimize direct view of the light sources themselves... So, It's a start...

-All right... thank you very much

18:00

-That's all right, Thank you.

Sean asks about the analysis of data. Sort explaining of questions set in the research set out.

-If you are correct about your detailing it doesn't mean that your scheme is interesting either...

-No you have to build in some added interest. I mean there are... particularly... you know I would call this a modern architectural house and there principles you need to... there basic principles... of the basic layer of how you light the architecture, then you have to build on to that, visual interest and 'fun elements', you've got task lighting... So there are... you know you might have artwork to light, there are different layers which you need to combine, and then it's getting a balance of them, which would help if you have a dimming system. You could have a central dimming system and you could balance the levels for different times of day and night. But it's getting that combination, not overdoing it, it's always the key to it. Trying to introduce fun, without going too far over the top, that's the way I look at it. Other people may look at it as a black canvas and do all sorts of wacky things but you have to respect the architecture, I think. First of all you have to understand the volumes and reveal the architecture, that's what it is: architectural lighting. Then it's a house, you need to add layers to that to make it a whole. You know, meet the different functions that you need to.

There you are! Good.

End of recording

PART ONE.

00:00

Briefing takes place

15:32

-Ok I think it's best to start from the beginning. These fins that run all the way up are they wood or are they glass or acrylic or... have you thought about this?

-They will be solid not transparent.

-They will be solid fixtures, ok. What I might do then is....

-Do you want a softer pencil then?

-Yeah, yeah. HB... so downlight, downlight, downlight [marking on drawing] in between each one of these niches, ok? Just a little LED downlight; something that's very minimal but with a good focus beam to splash down and also we got hot lights in between them as well, so you get that wash. I want to, for some reason, cove this entire wall and hide it... [Sketching]

-Up or down?

-Yeah at the very top. So that cove... with cold cathode or fluorescent battens - what the heck - cold cathode. Who's counting the cost?

-Yeah, there is no budget; I forgot to tell you.

-No budget. Continue that through. So we got that there... so it's like a dynamic on the entire wall... On this side ---- put little slots actually in the wall... so just trying to you know, 'mimic' what's happening on this side.

-What height are they?

-What height are they? We've got a piece of paper? This is going to be really-really sketchy because... (*Sketching*).

-It doesn't matter.

-There is cove down here. God how long has it been since I've last drawn. I'd make these very thin slots, in the actual wall. I don't really think that I want to cluster downlights around there, what I might say if there was a bit artwork, situated along this wall, I would be trying to actually hide a downlight or something, within... the actual cove, so you've got... this idea: cold cathode's in there and downlight just grazing down the wall, giving a bit more direct focus.

18:53

In to this space (workspace), hang on a minute, because this is quite interesting inside... Can I see inside the actual building again?

-This is where the fins are... and then this is the space. Do you want me to go to a specific area?

-No, no just were you had it. At the top would be fine now. To actually wash it down now, I think you actually want some powerful and maybe (it's) a bit too much overkill in that space. What would be nice, instead of trying to light down from it, is to light up, so we're keeping the same idea but only with uplights.

-You keep that, or you'll change it to uplights as well?

-Well this is up and down. So you've got... [sketching]. What is the best way to draw this? So you've got your fin, and ground... ceiling... and it's all in-between them: a downlight shining down in between them and a small uplight in the ground shining up, so you get that there, but because that there is --- by 2.5-3.0metres.

Simon checks if the room height is covered by the beam of up and downlights. Then goes on to copy the same effect on the internal fins.

-And then, maybe in here I'll just keep echoing with uplights. If you can get a really good colour temperature on LED, maybe we can use LED but if not, low-voltage downlights. So into this space here (workspace) it's a workspace so... can I see inside the workspace?

Demonstrating the 3d model on screen.

21:28

-So we've got a really large window... it's going to get a lot of light. So you've got a lot of light pouring in through that there... That's about 4.5 metres; let's say the space is about 4.5 give or take, square. Could be a bit more. So its gonna be a lot of light pouring in there. I want to make a feature of this but because there is a large – is it a circular or a square opening at the top?

-It's a circular. It's like a cylinder.

-It's a circular cylinder... Do I want to get light on this wall? I don't really want to cove it because it just wouldn't be enough light coming down it. Maybe put this array of circular downlights, just going around it. It's a workspace so you will need some direct sort of lighting. So I don't know if there is a desk there, maybe possibly back here with the back to the wall so you can see... So you've got a desk, probably a task lamp, on the actual desk, and something washing up... no. We've got (downlights) coming down the wall, got a task light, we've got a lot of feature coming in here as well (staircase). A floor standing here?

-Are those downlights or wallwashers?

-They are downlights. Maybe we need to work out the spacing just to see what it would be but... double height space... is pretty big again we need something. Certainly we wouldn't use a crappy fluorescent [unclear] but you want it dimmed so if there was good LED downlight that I could use, or if not something really nice low-voltage. I don't have to say standard circuit 50W?

-No, you don't need to. Quantity is not an issue.

-I don't know if it fits there... I don't want to spoil the view through to here. We've got to step down...

-What view sorry? From where?

-I don't want to cluster the ceiling with too much stuff. We've got some steps down...

-Steps down there.

-Oh, it steps down here. So this steps up. Ok. So this steps up here. That's continuous all the way along?

-Yes.

-Yeah. Oh what the heck, I'm just going to put a line; small lines of light.

-In the nosing of the steps?

-Yeah. I bet I'm doing what everybody else's done!

-No, no.

Joking. Some informal explanation of the project aims.

-How can you judge a lighting scheme if it's good or not?

-Well, no. If it's dark and gloomy...

-What if you want it to be dark and gloomy?

25:26

-No, the way I feel about this is its' all... the main corridor connects the whole thing and it feels quite open because you've got these sections going through and you can see through the entire house, obviously not the bathroom, but there is a lot of free movement, I haven't seen too many open and closed doors or anything; I mean there is a lot of doors but everything is quite easy to get around, move through and also look through, and find the inside outside, so I don't really want to clutter it with... downlights everywhere which... clearly I'm doing! I want to try and hide the light, I always want to try and keep a slot detail but to try and conceal it as much as possible, because that's the way to do it. At the end of the day I don't want to go over the top by- you know- 'let's just put a cove around everywhere'. Or, 'let's put slots in the wall', when there's clearly no reason to do that there. I mean, if this is a workspace, I would imagine someone's going to have/want to put something on this big mass of wall so when someone is coming down the stairs, he's going to see pictures over there. So you need a direct spotlight shining over the top of them.

You've got a lovely big shaft of light probably projecting down here touching that segment but as a workspace I'm just trying to figure: where would I want to sit? I'd want to sit with the back to the wall; anthropometrics. With a tasklight over my desk and maybe free-stand... here and here. I just want to put this little nosing detail because I feel it breaks the room up. So you know this is the boundary ... it defines the line where... you know: 'ok, stop'. Plus you can have it in a lot of different settings really. So in the night, you might have these lights turned away down, and then just a little glow coming from out there. This is a big window and maybe you're sitting out here, it could really look quite inviting as you move through the actual space itself. And if this is got a balustrade running all the way around - and I know it's impossible detail - but to be honest I've tried to...

Joking

27:42

-I would keep a continuous soft of balustrade detail so... [Sketching] So, If this is my balustrade here, this is the glass, I'd try to put in some form of linear LED flexible strip, to light down the top of the glass, so it's getting on this glow.

-This is the bridge or the staircase?

-Staircase and the bridge.

- Because the staircase is solid.

-Oh is it? The staircase hasn't got a glass? Has it got a... must have a handrail!

-It's a thick one... concrete. So it doesn't. It doesn't need to have a separate configuration from handrail. It's like that... (Pointing on drawing)

-Oh, it's like that there? Has it got a handrail at the top of it? Oh it's like a concrete... it's a concrete slab?

-Yes, it goes like that.

-Well, keeping that theory going there then... that's doing that... and we've got the treads going up there and we're putting a very thin narrow slot, just giving a little bit of light pouring on to that stair... at low level. Just taking you up... Up and then when it hits the handrail then keep it continuous... how would I do that? (I'm) just trying to think... So you got [sketching]... not (on) every stair but maybe one on every two stairs or every three stairs or something like that there.

-Would you want that or is it for... would you want to have it on every step?

-No, I wouldn't want to have it on every step, it would be too much.

-Too much cluttering or too much of light?

-Too much cluttering and too much light. I mean... because you wouldn't pick anything out then. I think... if you picked out every step, there's going to be a lot of spilling light and plus nobody walks in a house... I don't walk in every step up... I normally take two at a time.

-That's not very common... but anyway!

-There you go! That's how we are guys! We do things different! So, I'd do something like that there to be honest...

-But you're not?

-What... honest? How dare you?

-You said that! I'm just clarifying... for recording purposes.

-That was never proven!

30:00

So yes, I'd do maybe one every couple of steps. A tiny-tiny one... Or, try and incorporate lighting actually into the actual post itself. The thing is... why would you do that? Because it wouldn't give any light but a big glowing beam. Why would you want to have a big glowing beam of concrete... or whatever it could be made of? Because it looks quite narrow... I'm just trying to think why would I want to do that? I wouldn't want to do that! Maybe I would want to that to create a sort of linear feature up, but I think if you've got light pouring down from that skylight itself...

-Only on day though.

-Only on day. But at night I'd might try to put something at the top here. Conceal something so that it gives a 'halo light'. So if this is your glass staircase... (*sketching*), at night time you're just seeing a glowing ring at the top and then you've got there little dit-dit-dit (walllights) sort of twinkly bits. Yeah so maybe I'll do that there for that roof.

32:13

I don't really want to go upstairs just yet. I just want to come back downstairs. So I come in here...

Demonstrating on the 3d model.

-So I come in, under these stairs, so this is my entry point here, so this is my entry point...

-And enter the living space...

-The living space, ok.

-And you chose either to sit there or you go to the kitchen. Or you can enter the kitchen from the outside.

Simon gives a comical description of his possible route inside the house, coming home late after work. Moving from entrance to kitchen and then the sofa and TV.

32:50

-So this is double-height space?

-No this is. This is 4 metres.

-So this is bulkhead here? And this is a bulkhead here? So this is pretty... low-level. What's on this wall? What have you thought about this wall? Why is it?

-There isn't a wall there?

-It's just low-level? Ahh...! So there's a little back of the seats back here? Right.

Joking

-What I'd probably do is... I'd put downlights here, twin downlights. I can't put it under this bridge because. No I can! Because this is a glass bridge, can I? This is a glass bridge no?

-Yeah but not the floor.

-Oh, not underneath? Ok right. So, I'd probably do something like this

Joking

-Or, I don't mind another slot but just it's... too much. It's breaking up the space too much. Because you can't... Maybe nice pools of light or something like that... doing a nice... walkthrough space, you've got a nice bit there. Put something... where this seat is... [Sketching]

-I'd put something down here, just lighting up the back of that. So you've got a nice kind of break of light. So that's a floor level, So it's giving a wash of light up there. Nothing too strong, something very low, something that's got to replaceable as well, something like... LED... it's an answer to everything! LED... everywhere! So I'd do that for there. Into the kitchen now, a good old white of direct light I think. But it's double-height space, you have a got a nice view out there, what if I suspend something like, that? You know like a four-way fitting?

-Four-way fitting? Four gimbals?

-Four gimbals, with that transformer there... and things there.

Joking

-I'd also want to get light into the niches. Now, those niches, they're built-in, but something like that...

PART TWO

-So as I was saying... so the niches are going to be something like... [sketching] The shelves breaking off... are they glass shelves or...?

-They're glass shelves. Well, it's just an option.

-Well in time-honoured light bureau tradition by the way, I'll put linear slots LED going all the way up the side of the glass, keep it towards the back, but because they're made lovely curved ones, you can't get them all the way to the back there.

Simon is given the option to change the shape of the niches/shelves but he decides not to make changes.

-So you've got LED slots running all the way up either side, that's giving you enough light washing out into that there. And then maybe if you could stop the shelves slightly short bringing an LED or downlight...

He is asked to explain further the shelf detail and he defines the exact section on sketch and descriptions. The shelves step back slightly so that the lighting on the sides can have the necessary distance to light on to them.

-I've never tried that there I just thought that it might work.

Joking

02:19

-That's a big niche! That's a bit wide. Or, this has also never been done before! We'll do a goal post effect, so you got your niche and we'll put that complete goal post of LED all the way around it, just two downlights. Oh, that's exterior!

-Yes, it is. You can have them IP rated I guess if you want to keep the idea.

-Oh! You see in here I could imagine that you were going to store, kitchen things, cookery things sort of little ornaments, things that remind you that crazy trip to Morocco... Out here, I could imagine that these are full height and you've got a big fat....

Discussing about the probable use of the niches and the object that re going to be stored in them.

03:40

-You see, I mean I'd want to do... colour... not colour changing but I'd want to do a sort of colour because just looking at this here, you kind of go... it's kind of little boxes stacked on top of each other... you know (points in section)

-Yeah, you can say that.

Joking. Doesn't go forward with this idea; thinks it's silly maybe? And goes promptly back to solving the kitchen the way it started.

04:14

Anyway, back to the kitchen. [Sketching] That window is full-height?

-Yes.

-Ok. It's a very big window then. So it goes up four metres high? Floor to ceiling is 4metres?

- (Nodding).

-Can we suspend down at about a metre? Is that all right? So 3 metres...

-What are you thinking?

-I'm just sort of questioning... like... 'cause downlights it's just going to be... no, not this direct powerful beam and I think of the practicalities of it, too. You know if you've got an adjustable beam like that there, you get a lot of light to... twisted gimbals to sort of different surfaces. Downfall to it is that it needs a kind of really nice profile, adjustable gimbal profile, and it needs to be that there. The other option is to do a continuous wire there, but I hate that!

-Why not? Why do you hate it?

-Well I hate them because they just... they look cheap and sort of tacky and you know... you've got two wires and then a fitting, and then a sort of... you know

-Oh I see the ones you mean.

05:52

-I've seen them being used in street lamps and staff, which is a good idea, and we could use some handsome ones here but a continuous wire system it's just [disapproval gestures]. I don't like it. I do like something like that there. I don't want to put a big range... one of them you know sort of... high bay sort of jobs... but something a bit more decorative. I don't really want to do that because it doesn't feel like that sort of space there, to be honest. I mean, you could put a series of them, on there but...

-What do you mean 'it doesn't look like that kind of space'?

-That to me (high bay fitting) is sort of a fitting that... a pedant or something like that there... for a kitchen... just doesn't really feel right. I mean it's.... I know that everything else here is very – I won't say angular or minimalist – that if you put something like that there it maybe fake too much actually, the way I look at the house. And plus, the light over is going to just give, a glow... a big glow of light, if it's a glass shades it's just going to go: 'pffffshh' everywhere. But if you've got these little niches...

07:08

-So it's like an obstruction then?

-Yeah. If you've got the niches nicely lit and then spots going all the way over that, I'd also maybe just for the hell of it, put a very low level cove... [Sketching]. So that's your kitchen, that's your cupboards, there you drop like a [unclear] and then you have all that straight down, so you get a wash coming out to the ground. Over the actual kitchen island it's the extractor hood... That wall goes up full height?

-It's up to four metres.

-And the kitchen... this kitchen island, on your drawings it shows it as... [Sketching]

Interviewer gives extra clues on the possible uses and tasks over the island table, eating, chopping, cooking etc. Refers to the 3d model once more.

-Do you think you can look down on the entire space when you're on the glass bridge? Ok.

-Yes you can.

08:47

-So you can look down on the entire space from the glass bridge. We've got these floor lights... Hang on; I can't put a downlight there.

-Where?

-There. It will be at double-height.

-Yes, that will be at five metres.

-Double-height. So that will be a different sort of space. It's whenever you're walking past something you don't want to be looking down to the fitting. Because you can kind of see into it and stuff like that. It just feels a bit.

-But you won't be able to see that if you're on the bridge... and that's on the ceiling...

-Yeah...

-So what do you mean looking down to it?

-Oh no, I mean, putting pendants and stuff out there. You'd be able to look down on to them. You'd want that light over the actual kitchen island. Can we design something; a system that goes to the actual system itself?

10:18

-(Nodding). Or you can propose something on the fan that... is incorporated.

-I'm just sort of thinking that from the extractor hood around there... I wouldn't want to put anything on it. Maybe downlights... maybe you've got a double one or a triple one... lighting down on to this area; at very high level but they're very focused spotlights going down... I might even do it for over here as well... [Thinking aloud]. No, I don't want that. What if you raise something over like...? [Sketching] this is the kitchen, this is where you're sitting eating stuff like that there, what if you make something that goes up, almost like a street lamp on it...?

11:38

-What is this?

-If that's your kitchen and you've got your extractor bit over there, I want to bring something on and over...

-Up this mezzanine wall?

-No, no it's something like this so it's attached, coming up and hangs slightly over. And maybe that could be a bit more organic form... I want to say organic... I mean something that's not...

-Geometric?

-Yeah. Maybe it can be one of those large floor standing fittings converted, so you've got that... could be your feature's there... so that you get nice light over there sitting and eating breakfast... lit all the way around this... This goes up... all the way to full height?

-To 4 metres, yes.

-4 metres. We could maybe cove the top of that. Is that where you use wall lights? No. Don't use wall lights. Yeah, cove the top of it and so the same idea like we did out here. So every something you got downlight washing down your wall, so it's giving a sort of more focused. A little wide enough cove to get downlight to wash down the wall, to get to a certain point of it. I think that's achievable.

14:34

-Why did you chose that wall? Is it because that's...

-It's because this is (corridor) a constant... this wall (back wall) has got nice niches happening on, I mean you could just put downlights on to this wall here, or you could just leave it blank. Then again I don't think this is actually lighting the actual space, it's not doing what we've done out here. It's kind of a bit dis-jointed. If you've got this wall here having niches lit, you'd maybe want sort of that wall... if you're standing cooking out there you want it to be a little bit bright and maybe have a picture or something on it that's well lit or highlighted. You wouldn't want... cause you're facing here... looking either here or here, so this way you're getting a nice view and this way you're just starring at a big blank grey wall... Or you're probably standing looking out there, but you could have friends and stuff like that here. So cove that wall. Then it goes up to the top that you might think that there's light getting in, daylight getting in, from out there, sort of letting light in, into apertures of the actual space.

16:00

-I'm not sure what you mean.

-If that wall was lit with a continuous slot of light, you're giving the appearance; you're letting light into the actual building. Not by artificially doing it but by... obviously you may think [unclear] you saw that gap between the wall. So this entire corridor, which is linking the actual house is sort of separated but bringing it all together (at the same time). I think. So we've done it here. We've lit our little... upright here (seat back) downlights in here, into the seating arrangement... What's this seating arrangement? Is it covered or is it...

-It's a continuous sofa and the rooflight on top.

17:31

-So it's got a big roof light at the top then?

-It has a roof light yeah here.

-Ok so light is getting into that space.

-But it doesn't have any window on to that wall that I just took off. You can only see the fireplace and the rest of the house.

-It kind of reminds me of that thing that James Turrell did. Down in Yorkshire.

-Which one? The crater?

-It's got this space where you're sitting in it and you watch like the day pass around you. You know the one I'm thinking of?

-It's this one (where) like he built an artificial sort of hill and then he left an opening on the top and then... yeah it was amazing. How does this remind you of it? Because it only has a rooflight and it doesn't have any windows around?

-Yeah sort of you know like... I really started to think that if I was sitting in there, in the daytime it'll feel like... I don't know why I'd sit there on the day? I would, but I'm just thinking if it's a sunny day and it could feel really cool as well... I'm thinking it at night time when the lights are going to be on in the house and this is in the countryside so it's got quite clear starry nights and stuff like that out there so that could be quite mesmerising but... because I coved this here at the top, I'm just wondering if there's something that I can frame there... Not actually light anything but... just the way I've done that there, is to define it as a sort of halo ring... and it's here also a sort of ring as well, square/circle.

-But why do you think you it needs to be defined?

19:21

-I just... It's asking itself to sort of be defined isn't it? It's sort of making a statement that one feature. If you were sitting in a room, you'd kind of have looked to that there and go: 'right, theirs is big gap in the ceiling' which is looking up at. Maybe that's enough not to light it at all.

-So, you're saying basically that it's present anyway. Whether you like it or not, you feel hat there is a big opening in the ceiling?

20:05

-I'd sort of feel like I've been drawn to it. I'd sort of be looking while sitting looking up at it. And try to look out of it, or something. The staircase itself it's a large... it's a cylinder; and it's drawing you up because it's a stair; you're relaxing in the sitting room, you're there to read, drink wine, chat to people, stuff like that there. There's no other windows in the space apart from looking out into... you know you got to look up to it. That will draw you to it I think. So I'd want to highlight it. Because if I don't highlight it, why would I highlight the staircase?

-The staircase has a functional reason for highlighting it: you need to see the steps, I guess.

Short talk from the interviewer side for functional necessity and unconscious decisions. Simon doesn't add anything to it. Discussion on this stops there. He then adds that he'd like to see the circle and square contours illuminated but soon rejects it as tacky. As it's meant only to draw attention to itself and not of any particular value. He asks to have a look at the opening in the 3d model.

Joking about the detail drawing.

23:00

-From here I can see, every sort of thing in my body's sort of saying: either put light down this wall, or put something on it; to light that wall.

-That is a bit contradicting with fact that you wanted to look at the rooflight....

-Yeah I know. [Thinking & talking to himself]. Do you do anything? Do you need some form of light in it? No you don't. All you need... if the room is that nice, and it's sort of quiet common space, all I'd put in is a couple of floor stands and maybe cove underneath around the bench, so you get light washing along the floor. But that would be it. Is someone was going to put a painting in here, which I imagine someone probably will do, I'd try and maybe spotlight it or something like that there, or make a feature of it.

24:37

Marking up the under seat lighting and the floor standing lamps. He asks about the projection line of the rooflight on the seating room plan.

25:00

-So there's not even enough space to put downlights on the back of that wall...

-Well, you can make the roof light smaller if you think there...

-No, no, no. I'll work with what I've got. All right that's what I'll do. I'll highlight that. Of course this will be revised so...

Simon turns to his initial intention to highlight the rooflight shape in comparison to the stair rooflight and have also the floor standing lamps and the under seat cove detail. He specifies the decorative fittings as long branched ones leaning over the seating (floss Arco like). Jokes about the frequent use of them...

26:24

-Maybe I think too much about it. I'll...carry on.

Moves on to the reading space. Prompts on ceiling height. Decides to place the TV screen on the back wall of entrance seating space.

27:28

-So you come in... because you have another boundary there I'll go... do that again. Because it seems very logical. And you've got this glowing light coming over here. This is quite close to your head so... it's 2.5. Again to light the actual niches, something err... This time we can do that there: continuously cove the back of that wall, wash it with an LED. Do the 'goal post' idea. All the way around so you're getting a little wash out. And maybe even try underneath the shelf; put another there so... (*Sketching*). So that way we'll have a nice glow coming out of that shape. It's just crying out for a couple of downlights.

Joking about the downlights choice.

-Some people might suggest putting a cove right in front of that there to wash down the whole thing but I don't think so. You could put low-level lights along the front of that there. Or even cove the bottom of that again. I have the idea that would be too much. Maybe put a couple of table lights.

-Beside the sofa?

29:14

-Beside the sofa or in the actual niches. It could look nice. A couple of single downlights. Something that is not going on top of your head. Where is this fireplace now?

Demonstrating on the 3d model.

-So that's going to be a nice glowing fireplace there. Yeah that's fine. I'm good with that. So get that glowing warm stuff, loose that because it will get burned (floor standing lamp).

30:22

-So that area... I'm comfortable with that. Let's come back out. So I'm upstairs here. That's glass. What's this?

-Landing.

Joking

32:00

-Can we stick to the lighting please?

-Ok. I'm putting these little low-level ones from 'Cube'... the ones they call the piston, because I really like them I'd put one or two of those there... lighting up the soffit for the sofa...

-There is no space for a sofa!

Joking. Simon asks about material and configuration on the upper level and landing. He adds some lighting indication for the balustrade and downlights leading to the bedroom.

33:22

-So, you got your glowing glass either side and then the downlights like an array of spots... all three of them... just giving pools of light on to the actual ground. So this is the entry hall? What's in the entry hall?

-You can have armchair, you can have a wardrobe...

-So this looks of that garden sort of thing? OK then...

-There are sliding doors there.

-Is it translucent material?

Joking

34:57

-You'd like to light the wall. The reason you would is because the translucent material, whatever is lit in the background it shows up like a... 'camera obscura'... what do they call ... Silhouettes! So you could get an image of someone which is very you know [makes funny sounds mimicking thriller movies]. Of the view out here can be ruined. But I'd like to back that wall. It doesn't go full-height that wall?

-No, just (up to) two metres.

-So, it only goes up to there? Ok so what I'd put something at the very top of it, like run a channel, like a cove of the top off it. So you get a glow covering all of that there centre. So that's like a back up on to the actual ceiling itself. Giving light to the actual space itself. Yeah I'd do that. Then maybe at low-level again these little things (uplights). Pistons.

Joking & laughing

Thinks about the shape of the downlight frames. Decides to go for square ones. Makes a small summary of the light effects in the bedroom so far. Decides to repeat the 'goal post' effect for the niches over the bed. Asks about the wardrobe.

38:26

-I don't want to do the whole cove again, but what I'd do is just put little uplights at the very front of it, in the inside of the glass... lighting... sort of angled with a louvre on them so that it's getting up... so you're getting a nice glow... from that there in the space. This is another fireplace.

Joking. Amine thinks about the window view. Realises the window is looking down to the underpass and not to a balcony. Sees the model and realizes how the underpass looks.

39:59

-Under the balcony I'd cove either side of it so...

-There and there?

-Yeah there and there. To wash light down on it. Either that there, or put recessed ground spots going all the way along it, washing... yeah That's what I'll do I'll put ground recessed back up on to the actual wall and I'd get in to that there and start... because it's outside I'd get it coloured,

nothing like mad reds, greens blues and sort of that but soft colour... you know... leading through the space. You don't want it to appear like a spooky soft of underground but you would like it to be quite interesting.

Goes back into the room and moves in to the toilet area. Identifies the mirror and wash hand basin and decided to backlight the niche and the full height mirror.

PART THREE

Simon realises the actual niche-wash hand basin structure and decides to downlight it.

-Oh then, that's simple. Just put a downlight on it. Over the bowl. Because that gives you a bit of sparkle.

Joking.

-I'm gonna be a bit controversial. I'm gonna put a low-level slot here and here. Because it will define that there and it will a bit of light there and there. To these bits at low level and here as well.

Simon thinks and talks to himself. Decides to put few more downlights following the line of the one over the basin. Thinks it over as too much light. Deletes them and keeps only one.

01:31

-One down light. If there is artwork on this wall, I'd put the light over that there.

Measures up again the number of fittings in the room and turns to the toilet. Comments on the open plan of the toilets. Makes a funny comment on sitting on a toilet with a downlight over. When asked to justify he replies that the other sources are covering the area sufficiently.

03:00

-I mean how many people need a direct light over the toilet? How blind are you?

Continuing joking about toilet habits and light. He asks about the back wall bearing cupboards and starts to think how to respond to that. Joking continues and then Simon moves on to the bathtub alcove.

06:25

Everybody keeps telling me: never cove the bath, because it's really hard but... You could never put uplights here, because it would never work. So this will come from the ceiling. I'd wash down on it. Because everything else is... yeah I'd do that.

-Cove? Is that a cove then?

-Yeah, you pop up at the back, put a little slot at the top... and you could have your extractor fan there as well [sketching]. You got washing down the actual wall itself.

Simon moves to the external areas. He marks the uplights for the underpass walls.

08:05

-That could look quite nice and glowy and stuff. And you'll get light back up on to the ceiling. Quiet nice and warm and inviting. You could give it a nice sort of colour, or you make into the... a sort of colour [unclear] or something, just a pendant. I'd like to do something like that. Yes, I would. I want to get light back into that soffit so that it glows. So we come out here, and this is a 'portal'?

Asks clarifications about the portal. Gets an image of it on the 3d model.

09:00

-So this is a big bare wall then?

-Yes.

-In that case I keep the LEDs going all along the back of this wall, so that stretches all the way along. So you're given a complete... and it stretches all the way down here yeah? So I'd like the entire wall and then under the underpass... put the LEDs under the underpass. That's full-height? That goes up the entire gable of the house then?

-No, that's about the kitchen height; so that's four metres.

-Oh, so that's four metres.

-Sorry it's three meters.

-Three metres? So, how high is that wall then?

-It's about 40-50... and then it rises...

-40-50 mm? Oh, 40-50cm so it only goes... ahhhh...

Explains further the structure.

-Got you. Then we light that one (the other side) because that's a bigger wall. But I want to define the boundary of this one here. Ok no. Swap that around. Put them down this wall. And then swap the one that comes under the underpass.

-Swap them over?

-Keep them on both sides of the underpass. And then down, down, down. And this is a little tiny wall around. There's planting, I would imagine over the actual site of it. So I'd probably put some shrug planting there... that Castaldi tower fitting, or the mushroom fitting, little something there. Something low-level. So you could sit in to it. And then you come in through this little gateway area. Which is lovely. Side, side. Not full-high slot, only little slots, but the exterior version of it. To get a bit of wash there. And maybe a little downlight in the centre of it. Just giving a nice little entrance to here.

Big planter. Probably three little...

-Spike mounted?

-... spike mounted fittings. Olive tree... I don't know it's partially populated...

Joking.

-So you've got the space around here.

12:30

-This is the middle-yard, this is the front yard, another olive tree...

-See this is quite an open space. So you're going from one to another? So you're coming in here, this is a sort of area... do you spend much time in here or is it just really...?

-Yes, it depends on the season, doesn't it? If it's summer or spring you can get your stuff out from there, you can sit there and have your chairs... or you can work with your glazing open...

-See we've got our niches here so you'd light them; you'd light your niches the way you'd done it all the way along and you'd have your tree lit and that would be enough. It would be enough from that little space. You're looking into your kitchen, you're looking out. You got your tree and the niches and stuff like that there. I'd do something similar here, so maybe try and put maybe a downlight, maybe there's a downlight all together but we got [unclear]... and this brings you in here. Do the same here. This brings you into this space. So this is (middle yard) quite an intimate sort of (space). And this is kind of side actual boundary. I don't know if I'd use this space as much. If I have friends around and stuff like that, yeah I'd bring them around...

Joking

14:08

-Can I see this space? So, that's showing off really the... again: spotlight in the trees. Put a couple of that spike mounted ones on the actual trees. And then this big large curved wall, that meets the square wall. Or a flat straight wall... Yeah I'd do that: I'd put uplights doing that and around the actual... until we run out of space!

-Da-daan...

-Da-daan... Finito!

-Thank you very much

-No problem.

-I don't think I have any questions because I've asked you most during the designing...

Closing the interview

End of recording

PART ONE

-Em, OK, so that's the back. Is that the back?

-This is, yes, yeah, no, sorry, this is the front from...this is the office, but it's not very good. This is the office volume, and this is the (inaudible) and then the long tunnel corridor and then bathroom and sitting space....

-So, I'm just looking for the front and the back elevation, so, I've got the front elevation...

-This is the entrance elevation.

-Yes, the entrance.

-What you see from that side, this way...

-Yeah. So, is there an elevation from that way, from the back looking...that way?

-No, I don't have one.

-OK. So, I think, so first of all, I'd make the entrance, I'd highlight the entrance. That's what I'd do to start with, I think. So I'd make the entrance look kind of warm and cosy and inviting, I guess, so it would make people want to go inside. And I'd put lighting around the perimeter as well, maybe not outside here, but I'd put some exterior lighting here so it wasn't kind of shade and dark and menacing, so I'd want to make that look kind of open and inviting as well. I suppose, from this end I'd also do the same thing, so I think, making this area here look inviting, so I'd light the trees and also that entrance tunnel. I'm getting tangled up in the sketch up...And this elevation, I'd get a lot of inside lights coming through, so this would glow nicely. I don't know if I would put anything on the roof, because it's in a quiet, countryside setting, you don't want it to be too bright, I think it would be too much. So just a bit of lighting, just to make it feel safe and inviting outside. And, I think it's nice the way that inside and outside are connected...the inside spaces and the outside spaces are all kind of connected by tunnels and you get the blurring boundaries, the way the, there's kind of portals and quite large windows, so, this space is outside, but because it's got slitting, and it's got walls round it, it feels like it's inside. So I think that's quite nice.-So, they're connected in a visual sense, but also in an access sense.

-Yeah, I think so. So, this is the access, but then this is the visual there, and also this motif is connecting the spaces, and this motif here is connecting the inside and the outside strongly too, so I think I'd take through this lighting treatment inside here. I think I'd emphasize these verticals, these are quite fun, and that would emphasize the height of the space, too. I think that's the most interesting feature. OK, I might start sketching that. Let's start on the outside. So...I saw your yellow was very worn down, so ... liked his yellow! So, OK, I might indicate like where I'd put things and then...

-Yes.

-I think I'd put in a round...if I do that in red...

-So, what is the effect you want to achieve there?

-So I want to have the same effect kind of pulling you all the way through the building, so these would be in ground fittings and I think it would be quit simple to light up, so there'd just a simple up light in between the fins, just to light that reveal. It might just be an LED, or something quite soft...and subtle. It wouldn't have to be too bright. So those continue all the way up there. Now, where are those ones? Those ones outside. I'd do the same thing here. So, I wonder if I should build some effect on this somehow. So, I guess you'd get that there...so I think that's a bit like the Spears and Major? Bridge in Kew Gardens ...

-The one that they...this thin...

-Yeah, it's like a very beautiful kind of curve, and it's got these slats all the way along, so something like that. I think it's a similar treatment. But it looks lovely, it looks so pretty. So, that's the same thing here isn't it, and here, so these have all got this...I think the effect would taper off as it got higher, you'd still get a bit of a glow. Do they occur anywhere else? I don't think so.

-No, it looks like you've got everything.

-You'd also get a bit of a glow onto the ceiling from that, so there'd be a bit of a glow about here. Um, yes, so I'd up light these trees...so that would just be like a spike mounted fitting, I think, I mean, do you want me to like write on what fittings?

-Er,

-That kind of thing?

-If you want to write the name of the effect you want, that's very useful.

-OK...Now, outside you had low seating...so this is the seat here...and that's not seating, that's like a plant?

-Yes, it's a plant.

-OK. Then there's the niches. So, I think, these need, so, I mean, talking about finishes and things, do you think this is all kind of white concrete? Or stone...

-Probably a concrete structure, but this specific wall which is thicker would probably have a texture on it, because it's following all....so it would probably have a texture, stone or marble, I don't know.

-OK. I think I might do the same thing here, so I might have two, two little fittings in there and maybe they could be...

-Do you want to make a detail of that because it's not clear if they're up or down?

-Yeah, OK. Is there an elevation?

-There is one...

-Oh yeah, OK. So...Now, can I...I can recess these into the...

-Yes, of course.

-That should be fine. So these are going up...and, I think I'd like to paint the inside of these a colour, or actually, no, maybe I could use coloured light, so these...

-Maybe, sorry, you said you'd use...

-Coloured light, yeah, so, if this is all say one pale, I don't know, a pale finish, then you could use coloured light, so normally it would be white, warm white light, and then in like a party or something you could change it to a colour. I think I'll put something here as well. So, that reveal, so I'll say... (*writing*)

25:50

uplight to reveals. OK. So maybe there could be controls somewhere to just change the colours. So, I'd probably do that on all the doorways. Meaning four. Um, OK, so this is underneath ... I think I'd have some in ground fittings, but maybe some...

-Any reason for that?

-Well, because this might feel a bit like a dark tunnel at night, so you know, just to make it a bit more welcoming, so I'd have, I think I'd have one along this wall...Well my spacing isn't too great, but...

-Well there's always the recording which reminds me of what you were planning to do.

-Sure. OK, so you'd get a glow...where's that...scene...

-No, I don't think there's an elevation for...

-So these are...

28:00

writing

-Oh, there's a cross section.

-Oh, is that this one?

-Yeah.

-OK. So, you'd get a bit under the ceiling too, so it wouldn't feel so scary. Um...I might have them all the way along. That might be quite a lot, though. No, I think I'll just have them there. Um, OK, so you come in here, so that's the doorway into the seating area. Now, that's tricky. I don't know what to do with a spiral staircase. I've never had to think about spiral staircases before...Um...I might put some light up here, so at night you still get the sense of light from there, so during the day you'd get a sense of light from there and at night maybe the same.

-Mount it on top of the staircase.

-Yeah. So, maybe...I don't know. Maybe like a cove here to fill that with light...sorry to ...light pollution, but...so you'd still feel like you were going up into light.

-Is that because you want to imitate the day effect, or...?

-Yeah, 'cause I think you want the light to go over the stairs, you need the light over the stairs, but you don't want to block that with anything else, so an architectural cove would just softly glow in there and you'd get reflected light back down. But maybe you'd need some thing else onto the stairs too, that'd be ...?

30:48

So, this is glass, isn't it?

-No, this is solid, or plasterboard.

-OK, so I might put in a little wall...

-Only the steps are like thin slabs, so you could see through it...

-OK, so you can see through the steps, but this is solid. So, maybe...Ok, we could recess a little step light into them then. I think I'd do that too, just to give some more...like every other few...So...this area...I might put wall lights here 'cause otherwise it's such a high space unless there's some art work to go in here or something.

-Um, it's a work space but without any furniture arrangement on purpose because I didn't want to direct people into one specific solution. So you can imagine any furniture arrangement you like.

-OK. So, if there's furniture then there might be a desk here, because the only kind of flat wall and it's next to the window, too, which is nice. Or maybe it could be here. This is the window, isn't it? And this is just like...Oh, OK. Yeah, I think I'd put the desk here, 'cause you wouldn't want to put it there because that would look horrible from outside, someone's computer bits and stuff there, so I'll put the desk here. And...so we can have a table light...and I might get some long, thin wall fittings to go on this elevation, so it echoes that kind of rhythm.

-OK, so are they going to be in the same position, and height? Like small up lights, or...

-I think...actually I think maybe I'd have wall-mounted lights, so like, let me think...'cause at the moment it's like a big, blank wall, so, unless they...I might tell them to put art on it...can I tell them to put art on it?

-Yes.

-But then it's curved, it's curved though, so it would be difficult to put art on it.

-They could be artists and make that themselves.

-They could paint a mural, that's true. I'm going to have a mural. OK, so, then I'll have some wall washes...that's the ceiling?

-Yes.

-OK, so they can have some wall washes here and some here too, OK, good. And that whole wall is a mural. OK, so you've got that going on there, which is quite busy, then that's that...Right, so, living room area and seating. OK. I haven't finished this bit actually. This is that tunnel, isn't it? So I'm going to put more of those along here.

-Linear ingrounds, are they?

-Yeah.

-Any reason for that?

-Well, this would feel quite dark, I think and you know, these would graze up the wall and highlight the texture material and they'd also...you'd get light onto ?this off it/the ?sofit? as well. And those would already light that a little bit there. And then that would look inviting...oh, there's more of that here, isn't there? Yes, so that would look quite nice from outside. Then, I think, you know, these could be really discrete, I've drawn them very large, but they could just be quite thin, LED ones, I think. So, moving..this bridge thing...that's quite visible...might, if they've got a lot of budget, I might put some...

-They've got.

-Yeah, great, OK. Perfect project, whatever you like...so this is frosted...oh no, I've done it on the wrong level.

-It doesn't matter.

-OK.

-Don't worry.

-So, this is frosted glass (indistinct speech)

37:31

Well, so this is frosted glass and they're going to have it edge lit with LEDs so you get a nice glow and maybe in the top as well, so from the handrail...

PART TWO

-6 and 2 trials, but I need to have 20 normal ones, not to...Right, shall we continue?

-So that'll be a nice, soft glow onto the bridge, just a nice glow, um...that's a gap, that's a gap, that's a...is that like a landing? Yeah... and does that go anywhere?

-No...

-OK.

-The landing is missing, but there's...this is the entrance hall...

-OK, yeah...

-and it has a translucent panel which has sliding doors...

-So these are sliding doors here, OK. So I think I'll give them...I don't know. What do you think they'd use that for, like storage, they might have a wardrobe in there...

-Wardrobe or mirrors or...

-OK.

-An armchair or something.

-So I'm going to give them a wardrobe. Maybe I'll give them an illuminated clothes rail.

-There's also another one there, you know.

-Oh, right, OK. No, no not two.

-Maybe they could have a second one, if they've got so many clothes.

-No. That's that. (*rubbing out*)

01:50

So here they could have something more fun, they could have sort of nice wall lights, a wall light. Do I need to choose one?

-No.

-No. OK, good.

-Any position, low, high or...

-Do you have an elevation?

-Elevation for that one is there.

-OK, yeah.

-Oh, something like a frame, then?

-Yeah. I think something indirect. Maybe it would have kind of slots in, or something, so then it's similar to the I don't know, like the linear light you've got with these lines. I've drawn it square but I think it would be linear, actually. And I suppose they should really have a couple of down lights over there just in case, maybe a couple in here just in case...I don't think you'd need very many.

-And just down lighting, not...

-Yeah. I think just, you know, this one, because sometimes the LEDs like during the day, you know, during the day when it's really bright outside it can feel really dark inside, so you might want down lights there just to boost the levels. But at night you'd get a nice effect from the hand rails...

-So maybe they could be controlled separately...

-Yeah, you might dim down the lights so you'd just see the glow in the glass. OK. So, I'd like the shelving back here...so I'll just give it a nice glow. They might have ornaments and books and things on there...

-How do you think this fitting is going to be called?

-Well, I think, it depends what they have on there, because if it was ornaments, you might have the light at the front, actually, so the it lights down and on to...yeah, I think you'd have it at the front so it lights onto the things they've got on the shelf, so, like some kind of linear florescent in a cove or something, so, you know they've got some ornaments on the shelf, it just lights down. I think that might go deeper...Um, and there might be a little bedside lamp here for reading. And they've got their fireplace...so, maybe, I don't know how you do lighting fireplaces, don't know if

you can do something in there. When you're not using it in the summer time you could put some lighting in there maybe. Um, might give them another wall light over there...

-Do you want it like that for a reason, or...?

-Well,...

-Or just trying to find a place for something?

-Well, because during the winter it's a nice kind of focal point to the room, during the summer it would be nice to keep that focal point with light, use light there instead. I don't know if you can do that, if you can have...I might give it like a shelf above, or maybe I'd put a wall light above it, a nice wall light. I think I would put a mirror in there, because you like to see yourself and wash your face and things...I might like have a floating mirror and back light it...

-How...

-So if that's your cove, so your mirror is here, and you'd have florescent behind it, so that's just a glowing beam/fin, so it looks like it's floating... I think that's what I'd do there, and then would light your face too, because you'd want your face lit when you're looking in the mirror. Is there any elevation...OK, I can do it here. So, if that's your mirror, there, that's a bit short, and the top and the bottom's going to get light out of it. So, if I can step into the bath, that's cute, OK. I might have lots of little LEDs around the bath, like in between...

-Where the bath tub stops?

-Yes. So, yeah, in between, like, in here, so, in between the bath tub and the wall, so you'd get a nice glowing kind of little nest. And you'd feel nice and cosy. So that would light up onto the ceiling, and I'd have some...so is this is like a step all the way along here?

-Yeah, two steps.

-And I might have LEDS along under the step. So you get a bit of light onto the floor. I think it should be quite luxurious. And these could also be RGB too, depending on what mood you're in. I might make that...

10:55

indistinct speech

Oh, no, it's the wrong wall. That's that one isn't it?

-That's the one the ...?... is on, yes.

-OK, so that's wrong, so that is lit shelf, and that can be the same kind of detail as that one. I think you'd probably need a down light over your head...to model the face and...where can you have it? I think you could have a nice wall light here; otherwise that's not a very interesting wall. I think you'd have a painting here, a big painting, and you'd have a picture light here...OK. Downstairs...so these little niches...I think in here you'd probably have lots of things kind of just laid...

-It's for storage...

-Yeah, so you'd want maybe to put down lights in there to light them...make them sparkly and attractive. So that would be...I would have...those are just counters, OK, maybe a nice pendant over here...A nice, big pendant. 'Cause that's quite a high space and ...

- There is an extractor fan, though...You can just allow for it I guess. It's something we can solve...

-We could use a rod, an expansion rod to keep it still, yeah, that's true, because there's a cooker, yeah. OK, so I'd shift...maybe it wouldn't be that big, then, I think you could have it kind of over here...

-Well, I guess that's something you could solve later in detail.

-Or maybe it could just be a linear one, over the seating, yeah, it could just be here, yeah, so that's just over the seating area. I'd have lights in all the cupboards, inside them, so that when they open the doors...

-Inside the cupboards?

-Yeah, 'cause if you have like a, you open the door, maybe LEDs, just an LED strip all around the edge.

-Yes.

-And then just some down lights, I guess, to make sure it's bright enough in there. This is nice, though. This is all sunken down, isn't it? I might have...it looks like you've got a little gap around the edge...

-No, it's just the steps.

-I might make a gap round the edge because then that would just wash up the back of the seats and that would just highlight, you know, just to highlight them. We could also put that shelf light here to light on to their books...and their objects they have...

-A similar detail as you did for the bedroom shelves?

-Yeah, yeah. So I think...it'd look something like that, so it shuts away. So it would just be just a glow on to the fronts of the books and things like that. Maybe, yeah, if you had that shelf set in a little bit ...that would cover it. I might have...I know what I'd do, like, em, I've seen before, this whole wall over here, it's solid, isn't it? OK. So I might make little alcoves in these walls, as well, to carry that on. (18:44 indistinct speech) ...shaped ones. Maybe...that's our wall, isn't it? Yeah I'd have some in here too. Not so many, though. And I'd just have candles in here.

-Oh, that's nice. Really cosy.

-And maybe you could have some in the fireplace, on that side, because they're quite thick. You'd have one there...

-Over the opening for the fire?

-Yeah. Maybe one here too...

-So, is that because you want to continue...

-Yeah, yeah. I saw a restaurant where they had, they were little alcoves like this

19:50

sketching

really cute...

-And they had a colour inside?

-Yeah. They were really sweet. They were really small, they were kind of, this big, but they had them all over this wall, and it looked nice. Do you think they'd have a blind or something over the sky light?

-Yes, it could be, or etched glass, or...

-Yes. I think I would say to have a blind, because that would save a bit of heat as well... So, they'd have a blind, and they could have another cove round there. And that can light onto the blind...Oh, I've done it on the wrong floor. OK, I'll draw it on here.

-Do you want to draw it on the big picture?

-No, no, well, no, this'll be alright.

-(phone rings) Is someone looking for you?

-Yeah. It's both my parents, my dad is in London and my mum is at home, both phone me. I don't know why.

-Do you want to pick it up and call them?

-No, it's alright, I've texted them both. They know what I'm doing. Just being annoying. So, that's light from above, light round the edge...I think that's enough. Everyone you ask must just fill every single place with light, lighting to them is, they just go crazy...

-Especially when they have an endless budget.

-There's something we always do with seats, which is to under light them, so you always get like a graze of light onto the floor, but I don't think I want to, no, I'm not going to do that.

-Why not?

-Well, I'm bored of it really, and I think these areas quite full of light now, so I might put light round the steps instead, so there's a bit of light on the floor. ...So, I've got my little alcoves here, maybe they'd be like that kind of size...a little candle...never get to do candles with lighting design.

-That's true. Did you do something like a flame on top of it?

-Yes, it's a candle...is it wide beam or narrow?! That's going to be a linear...that's wrong. I reckon that's nearly it. I don't think I've got any bits.

-I don't think there's anything left to put a light on.

-No. Crammed light into everything.

-Nice. There's lots of things to talk about for me.

-OK. Is that alright, then.

-Yes, thank you very much.

-It was fun.

-Did you like it? OK, that's better, then.

-I want to explain on this one, so, maybe I'll draw this...so this is up and then you get light onto the reveal...

-I mean, everything is self-explanatory, so...

-OK.

-Have you done things that you'd like to see in an ideal world, or like you thought that the space, asks for them?

-I think that the space asks for them because most of the time you know, it's doing things with the architecture, rather than making something new, apart from those alcoves, but that's...

-You liked them; you wanted to find the opportunity to do them.

-But that's extending this idea...that's the same idea as that, but we've just moved it around...

-So it kind of reminded of you?

-But these reminded me of that restaurant, so...

-Would you say that you put the down lights there for complimenting light levels which were...you were not sure...

-Yeah, so I've put the down lights in the kitchen...you'd need down lights just to make sure it's bright enough to see to cook. Down lights are boring, but you do need them, I guess. And maybe you'd have some over the counter as well, actually, so you could see your cooking, because actually like the kitchen, you might have a higher level cupboard, so you'd put light under the cupboard and that lights onto the counter, so here you might want an actual down light over the counter...

-Yeah, I mean there would be cupboards here...

-Yeah, yeah, exactly....

-So it's up to you...

-So you can see to cook.

-So, matching down lights with functional...

-Yeah, so the down lights are just...where that bridge, that bridge...I don't think that LEDs would really give you that much light, it's just a bit of feature, so that's just to make sure it's bright enough. But, everywhere else, like everything else is enhancing the architecture, I think...You know, it's kind of revealing what's already there, you know, saying that's the whole building, but look at this bit. It's more interesting than that bit, kind of focus attention on the bits that are interesting.

-So you see it like as a patchwork of different corners that you want to include?

-Yeah, so you kind of have a building then you say, what you want people to see, then you put the light there, and you know you can make things decorative with light as well. And then like outside where it's dark you don't want things to look foreboding, you know, uninviting, so you make them a bit brighter as well.

-OK. I don't think I'll keep you any longer.

-OK, that's fine.

-Thank you very much.

Closing interview

PART ONE.

00:00

Briefing takes place – Suzan takes notes.

14:08

Suzan asks about the way of approach and how far she would go if she needs to explain her thoughts etc. Makes a comment about the usefulness of 3d models in order to understand space better.

15:54

-So definitely what I would like to achieve, if I was the owner or a guest, is the... Because it's residential I would definitely play with colour temperatures. In residential yes I would go for 3000°K. If we're using tungsten halogen or fluorescent it will be pretty warm. Whatever the materials are, I would like to see glowing warm light coming out of it. And I would also like to play with the contrast. In terms of light levels and the brightnesses.

Those panels here, are they made of wood? Do you know anything?

-They could be plaster... they are definitely solid. I haven't gone to deciding the materials.

-I would see this as a kind of route. The light should drag you in the space. So in terms of functional lighting I would probably look at... three small downlights recessed in the ceiling. Because it's residential they could be dimmable. You could play with the light levels and I would think to accentuate. I would really like to accentuate the structure here so I would think about having recessed small uplighters... in between... to graze up the structure. Which would be a very welcoming, very nice accent. So this will be [as such] here.

Looking at the model for the next space.

-I think I would try to continue this scheme. Also along here because there is no problem [of] getting glare and... I would continue from outside and go inside. So that you can understand the structure of the building properly. You can understand more [the] architecture. And the elements [of] this house. Because this would be a feature when entering I could go also [for] a number of downlights. Some tungsten-halogen. Then I would be looking at this area here (workspace). I think this staircase can be a very nice feature.

Asks more details about the staircase and specifically the balustrade.

-It could be possible - this is a design matter - but it could be possible when you have the balustrade like this, that you could have something integrated like this and get the glow inside... you know. It depends what is easier to do.

-Is that on the inside or the outside?

20:14

-No, I think outside would be better. I mean... let me think. Where is the main... that's the first step right? And then you're going up?

-The first step is somewhere there I guess.

-I will definitely do this on this side. So this will give me enough glow on the steps. And also this could look very nice as an architecture... Continuing this to the top. Then I don't know if the balustrade will stop or it will continue straight as a line.

She looks at the drawings again for the upper part of the staircase, the landing and bridge link.

-But this is glass right? I mean it's there. You have this lighting here or another option would be, you could have... it depends: you could have also lighting recessed into the steps which would also look nice when you look from the top down. You would see the glowing edge.

-Which one do you prefer?

-You know I always think in terms of images. When I've seen something somewhere. Do you know Allies & Morrison?

- (Nodding)

-Their main office in London, they have this staircase with integrated lighting which looks very beautiful. Its stainless steel... yeah its steel... painted grey.

-The balustrade?

-You know the outside of the staircase. It's such a lovely shape really. Its so simple, it's working so well. Then if possible I would try to continue the same idea. It would extend it here but obviously you have glass which could be... well it depends what you have here. On this side you could have fritted glass. So you can have from the edge... edge-light it.

-Fritted all the way [up]?

-Yeah, I mean... not necessarily. If this is your height well you know you could maybe have it... (sketching). It could be frosting or it could be dispersing or... but then the light will graze. All those point will pick up lighting so it can get nice.

It's so different if I design interior spaces for a house and if I do commercial lighting.

-Why?

-Well, it's such a different attitude. In terms of light sources and design I do not care so much about efficiency. It's so different. I think its easier.

We are here so I will actually see those spots (uplights in fins). But they will have a honeycomb on top of it or frosted glass so this will be not an issue here. I am not sure I understand this space here. We have... what's the height here?

Explaining the split of space in two levels and the relevant heights.

25:04

-Probably I could go for two downlights to cover here, I would not probably go for lighting integrated in the handrail on this side. It could be too much. Also for cleaning purposes maybe one-two [downlights] here. So you still have the possibility... if you wanted to clean it.

-Those downlights that you places there and there, do you imagine them wide beam or narrow beam?

-Definitely here we are talking about something which is narrow beam. Like a spot... yeah, point lighting. And here also (corridor) look at this: this is one meter, the door, so we are talking about here maximum two metres.

-It's one and a half.

-Well yeah that's what I said. Actually I hate all the scallops you know. I would like to keep this wall without any scalloping and so on... I think it will destroy the whole effect of this wall (panelled wall).

-Why you don't like the scalloping?

-Well I think it was very popular in the 80s and I think now, more and more, if you see scallops it's the question of taste. It doesn't have really a proper aesthetic approach. This is what I realize when I'm talking to people. I meet with clients, they don't want to have it or... I mean also for my personal point of view it's a graphic element. In the United States, they realize I think how to do this right. In Europe they still do not know how to do this right. So it looks like it's accidental. In the United States they have the idea, they use the PAR lamps and they... it's interesting... they

usually (sketching) position the PAR lamp - this is the alignment - and the spacing is very close. So what they are achieving actually [is that] they don't allow you see into the lamp, you know they just go for bare PAR lamps and the spacing on plan, they are going for very close spacing. So what they do is obviously they do get scalloping but this scalloping looks very neat. It's not like a wide beam which catches the surfaces because it's you know. I've seen this many times. When you have an important wall or reception, they've done this and it looks very nice.

-So the attitude there is: if you're going to use circular/point sources you should array them the one close to the other, otherwise you have the scalloping.

-Well yeah or you just have to see the beam angle and how far the walls are apart. You don't have a section here, right?

-Through the corridor? No.

-But I mean, imagine... what was the height here?

-Three meters.

-So if this is 1.5 this will be approximately three meters. Right? So if have my fitting and I go for a wide beam, I would kill the whole effect of all of those small uplighters and also I will get a scallop here (opposite wall). I would rather go for something which would actually do this. Maybe you could also have elliptical lens, so maybe you would go for this kind of distribution (oval shaped). This is what I would do.

30:36

Now if you could just remind me the heights. The heights are very important.

Explaining the ceiling heights again.

-Five metres. This could be an issue. There is open space above with accessibility, yeah? We do not have a roof plan?

-We have.

Passing the roof plan drawing and explaining.

Well maybe... this could be problematic because when you have glass you can not attach actually anything. Well in here I could imagine having things suspended. From a kind of long cable.

-Is that for accessibility reasons?

-Well it's also the height. Because its five metres, you know just to cover this height you will have to go for a very narrow beam, which will be spotty. What you want to have is a nice... If this living [space] you want to chill out there. You don't want to... Obviously I don't know in terms of furniture plan... Do you have...? This is the only sofa?

-And there's one there. [Those are] the seating spaces. This one is mostly [used] for reading or seating in winter time, this is more for welcoming as you enter the house.

-Ok so there is no table that...

-there isn't a dining table, you can use this one, or [some people] have deleted the furniture [here] and put a dining [table] there because obviously this is more... which is fine.

-Well, this is fine but this is actually [a] difficult space. I wonder how many people were thinking about this (laughing). This is glass or could you imagine... you want to have a view out and daylight from above right?

-Yes, that's the reason. It doesn't have any window.

-The whole room... yeah. It's a very difficult one. Let me leave this one for later. Sometimes it's just...

-Ok we can go on in some other areas.

-Do we have different levels here?

-Yes. This is two steps down the same as the workspace.

-So definitely everywhere I have the steps I would just go for lighting recessed underneath the steps. I don't know if it's good or not but let's say (sketching detail). LED strip probably which is very... you know there are people who produce like an 8mm or so... flexible ones you can glue or clip in underneath and there will be no problem with the heat [with this]. It would provide you a very nice glow so you will have here a glow and here. I will always try to accentuate all the changes in the level which is important. If you are in a house it's fine but if you have visitors or so which I think is always difficult if there is no lighting for the changes in levels. And the same situation will be here (reading space steps).

Is there a TV here?

-I haven't planned any. I guess if there is a place to put it will be there. I built this for a library.

-It's a library so it will have books, but can you imagine also having...

-Yeah you can have the TV I guess.

-Yes you can have TV somewhere but can you also have a vase or is it a kind of display? Shelves where you can put not only book... but obviously the books would cover everything but ... is it more a library?

-It's mostly a library. Yes you can take this as the library of the house.

-And this library is going up to the ceiling?

-It's up until you find the room. It's actually not very high, it's 2.35 [metres].

-To the ceiling?

-Yes.

-Ok if this is the library there are different options you can do but obviously you would like to... we are not talking about TV. Let's forget for now [the] TV yeah? So if this is my [library], I don't know how many shelves you have but let's say that these are divided and you have those books here, so usually you can go for lighting which will be integrated within the top shelf, so this could be fluorescent lighting with a louvre or polycarbonate so what it will do, it will...

PART TWO.

Suzan is expressing her reluctance to design a residential lighting scheme without having a discussion with the future users of the house. This has direct affect on her decision between different lighting options for the library for example.

01:19

So, that's why I would highlight the books and also give you enough light to be able to read, but if I will go for display cases I would just go for... let's say these are not books now, this is kind of an opening, [it] will have a small downlight. If this is my object here, you know, just to get... a spot on the object. If this is the TV space I would definitely think about – and for the whole house – about the lighting control and in all spaces I would go for the ability to dim and dimmable light sources. So we are talking about tungsten halogen, and this space here, what's the height?

-2.35 [metres].

-So probably... this space is like a library, it would be nice if you could have like a corner or have maybe a reading light...

-Put a table in the corner and...

-Yeah, it could be this kind of... (*sketching*) they have different lamps. It could be this kind of lamp right? But I could be... there are those lamps you can angle by yourself (bend) and you can have it in the corner which I realize is very useful. Even if you don't have this possibility, I would always allow for an amp socket; just to make it more flexible. You don't know maybe one day they would remove this and go for something different. To make it easy I would just put this kind of lighting. It's always nice and [it will exist] additionally to this. So this is the addition to the generic lighting; I would have downlighting. Maybe we'll just go for three downlights, medium-beam or so, with the possibility to dim [them]. You don't want to have reflection from the screen, of the lighting on the screen actually. I will keep it flexible but also simple.

04:04

In terms of this area, because it's so high, I think we could go for an object lighting. It could be custom, it could be a kind of sculptural wood lighting suspended... I will try to go for direct and indirect sources, maybe something which would glow, a pendant or so, to make the ceiling above bright because this space can look much lower if the ceiling is dark on the top level. Maybe we just go for different [sizes of pendants]. I can't do this here because of the ceiling.

-This is a random arrangement of pendants?

Suzan is not decided on a solution to the living area and is reluctant to decide upon one of the ideas. But she concludes that her clear intention is for some type of pendant.

06:24

-It's the kitchen here, right? What's the height?

-It's four metres.

-Do I have any cupboards?

-On the high level, no. Just low level, just 90cm and down. There is a section to the kitchen which is... that one.

Explaining the kitchen area. She thinks of the functional role of lighting in task preparing surfaces and justifies the extensive use of downlights. She then moves to the niches and considers alternatives for lighting them.

08:32

-I would definitely try to highlight those niches. It will always be difficult due to accessibility but it will be nice to have... what do we put on those shelves?

-Storing kitchen stuff...

-Kitchen stuff... We could have some downlighters but this is solid right? This isn't glass.

-Yes, it could be glass if you want to.

-This is just too high to do this. The other option would be... [there is an] issue with accessibility but you could have this glass surface back-lit. This could look very nice but [there is] the issue of accessibility. How would you access...

-You'll have to take the shelves out.

-Exactly. Unless you go for LEDs. And you could have edge lighting. If the cost is not an issue you could go for LEDs. Or I would go for cold-cathode or the fluorescent [version]. Fluorescent will be the easiest option to do. The distance between the glass... we are talking about minimum 150mm but [most likely] 200-300mm from the glass surface the back where you have the fittings.

-If you can make a detail of that: how you imagine it? I am confused a bit if you're thinking in section or plan?

-I'm cutting through here, yeah? That's the section through: AA. (sketching). If I go for fluorescent lighting to backlight it here, I will have to allow for... most of the time you go for the spacing 'a' to 'a'. And then you go for the next one just to get [even light]. With the LEDs you can get it to much closer. With the fluorescent we are talking [about] minimum 150 to the top and 200mm [to the bottom]. There are tricks where...

-Yeah that's detail. I just wanted to see how you imagined the effect. [putting] the dimension is like resolving the idea.

-Yeah, exactly. So this could glow. This could be nice. So we would go for the backlighting to these niches here: one-two-three-four here. And then, this is external, am I right? We could probably also go for something similar [outside].

12:05

Then, I don't know how this kitchen island looks like.

Looking at the 3d model for the kitchen island. Asking about the height of the ceiling. Varies the wattage of the downlights but mentions that the height is such that the different in wattages might not be noticeable.

-In terms of additional - like feature - lighting, for those counters it would be, in section you could have lighting integrated again in here so you would just get a nice glow around which could be very nice. And also the same thing here (kitchen island). I wonder if it would be possible to suspend anything above here.

Consulting the model again for the space above the kitchen island. She proposes an aluminium profile with fluorescent lighting and incorporated downlights attached to the extraction fan.

15:40

-It's important to give people some intimate lighting. You can also go for candles and dim this down. It looks like a modern house so you could go for something modern. Also instead of hanging this you could also go for a long [profile] and you could find a connection maybe [with this]. Like a long glowing square... you know. Rectangular shapes.

-Like rods?

-Yeah you could have glowing rods suspended here. Or maybe you could have glowing rectangles. So these rectangles are vertical and this is horizontal, you know. You could try to find a connection between [these two]. Well, it's an early stage, you know!

Ok another thing [is] that when I saw this image... This tree... Imagine you are sitting here and you're cooking and it's getting dark... it's a lovely tree. What is this?

-It's a planter.

-Is it concrete?

-Yes.

-Is it possible to attach anything from the roof? So you know what you could have? You could have a spotlight.

-From below?

-Above.

-Moonlight effect?

-Yeah you could get a 'moonlight effect' with very nice shadows. So it's this bluish colour, plus to have a contrast you could go for warm, 2000°K - 3000°K. You could have a ring... Moon and sun. Like a play. You will have a ring under [there]. So it's recessed.

-On the lower part.

-Yes. So if this is your concrete detail, this is built-in, that's your ground, and you could have... you know there are those IP rated LEDs. So this would glow and it would actually add some glow to the surface. It could look nice.

-Ah you build in...?

-On the side.

-Ok so it grazes the... ok.

-What I mean [is that] you have two options. Whether you will have only a line or... but I think a line if you want to go for something very graphic, this can look also very nice. You know, from above here. But you can also go for... there is this fitting for example from iLight. It's this American company. It's a profile and they have this polycarbonate top. You can have different option but I want to give different ideas. Like [as if it is] a first meeting [where I am] developing ideas with you.

-Yes, that's the point.

-How do I enter this space because...

-You can either exit from the kitchen and go like this or if you are already in the yard you go through those doors, or if you are in the countryside you can approach through the corridor.

-Ok and this is inside?

-This is outside.

-This is different here, right. This is not an important entrance is it?

-No, it's more of a private [one]. It leads to the garden or the land... But it can also offer protection from the rain or from the sun.

-So is this glazed?

-No it's concrete ceiling.

Looking at space in the middle and front yard.

20:28

-Well you know what could be pretty cool? I'm jumping around but I've seen this and I'm having [ideas]. Is this low?

-It's a ledge. It's 30-40cm.

-Ok so it's visible from here right? Wherever you walk? You could have here maybe one or two or maybe even three floodlights and you could cast very nice shadows of the trees on this wall. So this could be nice. I've seen this wall... otherwise it's very boring. But you could add drama to this. Then obviously you have this glow coming there... it could be interesting. How is the space going to be used?

-I imagined those as yards that you could come out on summer and put your tables out and have a pique-nique or...

-No benches, nothing really...?

-No no it's really... if you have the hardscape... this would be hard paved and this would be soft.

-This is glazed?

-No it's solid. All of it solid. It's just a matter of defining the boundaries of...

-Well this is what I'm thinking you could also additionally put an inground, because it's so low, you could go also for lighting... 300 you said? 300 is not really enough... I'm just also thinking about maintenance and those issues. But it would be nice let's say we're on the high level idea and not think about maintenance. Maybe it would be nice to define this boundary. Also with this kind of lighting maybe it's... So this was warm, we're having the shadows; maybe it's also going to be yellow. It's the [two elements of] nature and you're still trying to get connection. I know we are using a different technique here and different technique here, but it's still a kind of theatrical projection and drama and we can play with the same colour but in different ways. It's playing on different surfaces; it's the horizontal and the vertical one.

-So [here] you're projecting the image on the horizontal.

-Yeah. Those people they are... let's say you are the owner... you are spending so much money to have the best house. You designed this with the architect and now you want to have lighting or whatever. You want to have something special. So you'd expect from us... and usually when people build their houses they think it's their dream house; they want to have everything. We can make it especially for the children. Especially they appreciate it more. Something [that lies] more back to your childhood.

Suzan moves on to the end of the corridor and checks the wall surfaces on the model.

24:46

So I would probably try to go for... I would like to highlight the wall. I would try to do something to this. I would still go for the downlights.

-You are continuing the same idea with the inside.

-Yeah exactly. So it will be two here and one, two, three four here. Then I would try to uplight this wall. It could be an interesting effect. Because we are also using uplighting here, maybe it's a kind of connection you know. You are doing this from below up. You are grazing the wall.

-So [would it be] something with uplights or linear?

-Well probably I would go for something linear. It's different effect you will get. Here you have those elements that would graze vertically... it would graze the whole wall vertically. So I would just have an inground uplighter going here along... and here we can always play with the contrast... It doesn't have to be warm light maybe it can be coloured. I think it's difficult to say.

-Why specifically this surface?

-Well I think it's also an entrance as you mentioned. I always try to think about accentuating entrances. Because this is the first appearance of the building you are... you are welcoming somebody. If you just skip this you will have a downlight it could be whatever, it could be [an] entrance to the garage. But obviously if this would be the entrance to the garage you won't pay attention to this one. So through lighting you are trying to give people an idea of what this space could be.

27:13

Moving to the back yard (underpass).

-And this one here?

-This is just landscape. The shrubbery is just to show the landscape.

-I would probably leave it dark because we should focus inside the building so maybe everything [outside] we should keep it dark. Maybe if there is a nice view from the house towards the landscape. Actually here (showing positions) there is now way to [a] view. Only when you're here, right? Is there anything that we still need to cover on this?

-There is the workspace if you're planning to do something here.

-Oh ok.

Suzan asks about the ceiling height, any furniture arrangement and possible use. Does not get a specific answer and expresses scepticism about the vagueness and width of choices. Laughing on a joke.

29:36

Ok [its] definitely a flexible solution but you know the think is [that] I don't want to lose the effect of the circus, that's' [got me] worrying. If I suspend anything here, the object can 'kill' it. Unless I try to go for something that will go along with the form.

Sketching curved lines spiralling from the staircase circle plan. Asks about the ceiling height. Laughing occurs.

-Pendant element. Design to be confirmed.

-Ok I deserve that I think!

-No no no... in terms of ...dimmable light sources... but we are talking about different lights. Maybe...

-Something that follows the curved form then?

-Probably it is... this is such a different curve than this. I don't know I would just have to sit and think about this. How I would do this. Maybe you do not follow... maybe you do the 'L' shape. You know because this glass is so high, whatever you would do here, it [will be] an obstacle. If the obstacle is following the form then it's not an obstacle. It's actually another element. For now I would say: dimmable... we're talking about fluorescent and maybe tungsten halogen. Maybe this is also a connection to this (kitchen table), to this (living room pendant) and to this (staircase). So whatever it will be maybe it should connect those. Because of the height and you know... it looks similar from the top when you look down.

-Because from the bridge you could see down there, down there and down there?

-Yeah.

-Maybe not so much from there because you will have the staircase [in front of you].

-Yes but I mean from here... Should we go up?

Suzan moves upstairs and checks the accessibility to the terraces and the potential for view out. Wonders about the glare from the light sources in between the panels.

-Actually yes I would be keen to change the design. Instead of having this (balustrade) glazed I would have this solid with the same approach. It could be nice that you're continuing this. I would leave the glass here (on the other side). This would be fine. I won't do anything to this it's an opening to the space and you would need probably to have glass here. So this maybe could be glass and glass and this could be covered... So we are done with this one!

34:48

Searches for a TV screen and other furniture arrangements inside the bedroom.

35:19

You know what could be cool here? There is no glazing or anything. You could have... I would like to lie on this bed, look up and actually not to see the proper sky but to have a barrissol but above the barrissol...

-Backlit barrissol?

-Not really... it would be backlit but you could have an LED system where you could have a camera connected that could send images and you could have different things. If I'm lying here maybe it's this shape... maybe it's this shape here, so this is barrissol which is recessed and then you have LED points spaced on a grid and then you can send images. You could get different things. You could get moving cloud images; you could have whatever you wish. You could have a starry sky, so you're lying on the bed, it could be also white if you like to, you know.

-Like a TV on the ceiling, yes. You can project clouds and stuff...

-Yeah yeah... it could be nice. Or like drops... imagine when it rains... Then obviously [we need] some reading lights. Right and Left. Separately controllable. It depends how this looks like. I am not really keen on having lights recessed above your head. Because it's just too glary. Also I hate this in hotels [where] you have the lamps... like this. Not above your head. I've seen like downlights above your head which I think is horrible. It could be something mounted on your side, or maybe slightly above here, with a shield. It could be a small LED, two watt or so.

38:37

Moves in to the bathroom area. Adds light to the steps nosing. Asks about make up storing space by the mirror. Starts to explain the different options. Frosted glass in parts of the mirror. Then moves on to say that side-lighting is the best type of lighting like the one that is used on actress' dressing tables. And that is usually achieved with bulbs screwed on the mirror surface.

PART THREE.

-What we could do [is] we could partially frost this (the mirror) and have fluorescent behind

-So that we get diffused light from the side?

-We are talking about not more than one metre. Maybe you would like to make it slightly longer to get this. So in plan these will be your frosted [part] yeah? So you can actually access the fittings... You will have a hinge door to access those fittings. So this could be solid or it could be also glazed. So this would provide you enough lighting. I think this would be ok. Because it's the whole length, I would not... you know usually when you have... lets say that's the full height of the room, you will probably have your mirror somewhere here right? We are talking about typical ways. What you could do [is that] you can go for the kind of... so this could be frosted. In the section this could like... this is your wall... Because of the nature of [the space] they usually will not go for a matt [surface or tile], they will go for something very reflective. So we will have to have a polycarbonate diffuser you know; not to be able to see the lamp. But otherwise we'll get a glow here and obviously what this would do [is] to make a nice glow...

-A contour of light yeah.

-So this could be the case. Well again [some] small downlights, above here also two IP44 [downlights] because of the shower. Maybe one here... It will be nice to build something in to architecture.

Looking at the section through the bathroom.

-Well you know I'll probably [have one] here. I will put something in [here]. So the lighting will graze so you'll have a nice [lit] niche. But still it's nice to have a small narrow beam downlight to be able to see...

Examining the space and materials once more before making up her mind.

04:16

-Probably you will have to think [again] about lighting integrated within (the bedroom dividing wall). So that it's not too dark but [it will probably have] local switch. Then in here, it's a solid wall right? This is something I wanted to ask you. If you have any art objects but maybe because it's an entrance...

-I haven't gone into that detail.

-Maybe it will be nice to have a picture here... so it all depends on the size of the picture, you will just go for small spotlights or if this [is] large two washlights to the [vertical] surface. This is pretty long so... you know because it's so long I would not go for anything else; just the downlights. That's the issue. You will not suspend anything in here. Otherwise another option would be just to have a... it could be a lamp in the corner. Like a nice fabric expensive [lamp].

Goes for integrated lighting within the wardrobe as quickly as she identifies the object.

-We were talking about this (barrisol backlit ceiling). I will leave it as it is. That's the living.

Minor misunderstanding about the structure of the second floor. She confuses the voids of the living space but this is quickly restored.

-So are we ready with this?

-I think that's pretty much it.

-I'm still slightly worried about this area here, (workspace) you know?

-You don't need to solve it. I've got your idea recorded so... that's what matters. Your intention.

-Yeah I know I'm just thinking I would like to have some pendant... Maybe it's a sculpture which is made of glass.

-And you could see through?

-Yeah but it's not a clear glass, it's a frosted glass. Maybe you allow for lighting integrated within so you're getting reflected light. Maybe we're talking about something where you will be having light mounted in between. It's an art piece together with light. You will not be able when you're downstairs to view into the light because of those elements, but there will still be diffused light coming through here. Maybe it's just too much. Maybe we could have something really simple... a pendant. [it's] a difficult one.

Closing the interview.

PART ONE.

00:00

Briefing takes place and Tina takes notes with pencil of the major vistas. She also makes a quick sketch of the bedroom lower wall detail.

12:15

She asks for 5-10' to think about the solution so the interviewer withdraws and comes back a bit later.

30:31

-So you've made your sketches on...?

-Yeah I started writing some things.

-So you basically prepared yourself. You haven't gone into proposing lighting yet?

-Ah right. No it's just more of trying to get an understanding of the building. What the architect's sort of ideas were.

-Ok. So do you want to go through what would you do on each area and discuss about that?

-Ah-ha. I suppose I should explain first: for the building as a whole, my sort of feelings as they were... because you've got those big open spaces that connect with the different sort of areas; you've got three main spaces. The sort of living space and then the work space which is a vertical thing and then, your sleeping area. So yeah, you've got your sleeping and working areas. Those three areas are open and you have those connecting, long connecting things. So for an overall idea for how to light the place, to me it's a case of... we don't want to lose the idea that it's a big open space. But you don't want to make that blunt. So it's all about having all those different layers of that room...

-Can you elaborate on 'layers'?

-Yes, eh... ok. So, for example: in this big open space you've got your kitchen area you're your living, you've got your seating area here - entrance hall/seating, then you got your library. So even in this big open space there are three zones, or three different areas...

-So you define layers in terms of function? What function takes place in each corner of the house?

-Yeah

-Not in terms of lighting?

-All right. No, but I sort of see that in terms of lighting as well. In this sort space you don't want to have it a big blunt space... it's a... it will be about... So it's the highlighting of the function for each space. And always having brighter spaces and darker spaces that could create your kind of different depths. I suppose it's because of all your view as well. Because you've got all these strong views. One view coming through there (kitchen window). The way you view it from in there is in terms of layers and you different depths and things. Yeah and the same here. You've got the big space room with different functions... yeah. A case of sort of differentiating them and giving the rooms its different depths. And the... what else did I say here? Ah yes. And also highlighting the rhythm of the building as well. Again through these views... you've got all your vertical lines all down one side here and the same along here. So, yeah it would be quite nice. That sort of seems to be the language of the building, visually as you look through it, so highlighting that is going to connect the whole building together.

34:47

Ehm... what else did I say... ehm... framing the different areas... yeah and integrating the lighting into the actual areas... It is a sort of big open fluid space you don't want to go... clutter it too much.

-So you'd rather have sources integrated rather than visible (ones)?

-Yes. Which is then difficult for the... like accentuating spots and having dark spaces.

-I forgot to tell you that this is preliminary so in case... you were sitting with the architect, that you have the choice to change things if you want to. From big to small ones.

-All right. Ok. So it's possible to integrate things.

-Yeah. It's in an ideal world you know. The architect sits and listens to whatever you say and changes the structure or how it's built. It's supposed to be concrete, the whole skeleton of the house but if you want to put a source and incorporate it we can arrange that.

35:49

-Ok. So I suppose in terms of actually designing the lighting... so how much of information do you want or should I just say...?

Explain what is needed.

36:30

All right; ok. Ehm... I suppose I am coming through the entrance then as I said I wanted to sort of highlight those bits so I'll just draw... I want to get those fins. This isn't solid this wall, these are fins?

-No, those are panels... yeah fins.

-So I'd like to have little uplights going up there to pick up only those and then... can you get? You can't get through here?

-No you can only get underneath the bridge and... It's about 30-40cm wide.

-They've got lots of money aren't they? The clients?

-Definitely!

-Excellent! And then in terms of the sort of light-and-dark areas I was talking about I particularly want to pick up these areas... Then I'm gonna need some functional lighting to... Ok. Well, I might have something linear along here and then... I could put downlights... It's the entrance there... Ok yap so I've got a linear source...

-This is on the ceiling or on the floor?

-Eh this is...

-Can you make a detail of that?

-Yeah it has to be... (sketching) there... on the floor.

-Ok I just wanted to see the linear...

-Yeah and there's your downlights... and then... where should I get in now? I suppose into the living space. And then we could pick these up with some sort of LED or something like that in the niches.

-Like LED strips then?

-Yeah. So if that's your niche (sketching) I'd have some sort of detail there. So that LED is tucked in there. It could wash down or I suppose it could on the front...

-Yeah it could light the books if it was in front...

PART TWO

Tina starts part two by marking linear light under the built-in furniture: the entrance sofa and the reading are sofa. Mostly talking to herself. Moves randomly from area to area. Denounces downlights and thinks of alternatives, namely pendants which she tries to fit in the fabric or structures. The extraction fan in the kitchen for example.

3:00

-So the pendant will uplight and the spots will give more...

-Accent down... yeah.

-So this bridge links to that ceiling isn't it?

-This is a section of the bridge. If you cut this way, this is where your bridge is.

-Ok I can access the bedroom through that.

Interviewer adds that the sliding bedroom doors are translucent as she's forgotten it on the brief. Demonstrates the model again after prompting from Tina.

05:24

-Ok then I'm gonna change my pendant. My pendant's going to have a cover. We're lighting up... Maybe I'll have a cover in some sort of translucent...

-Are you dividing functional and more decorative lighting? Because I see that when you need more light you put downlight and you're using the others to sort of highlight the form. Downlights are to complement the quantities?

-I suppose so... Yeah the 'feature lighting' is sort of denoting the function areas but there's also the... I suppose in these corridors and things, along the main routes, the downlights are there to point out the sort of particular 'connections'; an important spot, whereas in the open areas you want just functional light to boost the light levels.

-So this is what you would call the functional light (library) and the downlight are more of...

-No no no... the downlights would be the sort of functional... I mean they are adding the light levels for when you actually need to do something here for example.

-This is a linear thing isn't it?

-Yeah, a linear thing.

-I guess this is lighting down, it's not uplighting the...

-Yeah. Lighting down. And here (living areas) it's going to be really dark! I think I will have to come back to this...

-This is full height right? So it's at five meters, together with the workspace.

-Yeah I'm still trying to get my head round the space a bit. Can we go here and look at it from there? (Workspace corner by the glazing).

Passing the mouse to Tina to navigate herself in the 3d model.

10:40

-So I suppose this whole area is a double-height space.

-There is a projection line here; I forgot to do that...

-So I suppose in these spaces you've got to... especially for the workspace... it will be a case of trying to light these walls, if we can. And you said the furniture is not gone in here. That's for us to decide where to put eh...

Describing the reason for not furnishing the workspace.

-We've got a window here... I suppose I'd quite like to light these curved elements in here, the walls just to get... to make the place feel quite bright. It's not only enough space to get... to have the right angle. Maybe up here then we could wash down there and get some sort of pelmet type detail there. And we can wash down that wall from the ceiling here and then get some... sort of mirroring this kind of language along here as well.

-How would you describe what you mentioned as 'a kind of language'? If you were to explain it... to phrase it in a way?

-Eh... what these vertical fins?

-The effect you're placing there, you're envisaging.

-All right. Eh I suppose as a 'rhythm'. I'd describe this as a rhythm and the kind of architectural language of the building. These vertical fins which you carried through the building for the sort of long views. Is that the kind of thing you mean?

-Eh sort of. I think I understood what you meant. I was trying to find out if you rTinate that to a specific term.

14:09

-I'm not sure what that is. I might have some... I suppose these are... I am thinking of, you know those things which you can kind of recess into the wall... light slots but they have the light source...

-Like the Kreon thing?

-Yeah yeah. That sort of thing.

-Are they wall lights?

-Yeah.

-Are they square ones or do you think...?

-I was thinking of the long and thin ones. To kind of copy that (corridor effect).

-Are they at the same height or are they...?

-I would have them, same height, sort of low down at floor level to put some light on to the floor. But more as a feature I suppose. It could be that. And then it could as well some ... in terms of functional lighting. I would just like some pendants here that can be following that line...

Refining the solution with the pendants over the workspace trying to work out the right arrangement. Adds verbally some tasks lights wherever the user is sitting. Adds some uplighting to the trees. Asks clarifications for the underpass (back yard). She decides to go for vertical slots with an opal diffuser along the outer wall. She adds down and up lights to the portals to 'highlight' them.

19:22

-To sort of accentuate those views again.

Asks clarifications for the entrance and back yard again. Interviewer shows her the relevant sections and elevations.

-...some linear elements there... (entrance wall and middle yard wall). That'd be inground.

-The surfaces you chose for these effects are based on the vistas or you chose randomly?

- What... that there?

-Those ones. Why those walls then?

-Why those walls to light? Well I suppose it is the vistas because you've got these... these are the sort of views where I want to light up the frame so you get the different... ehm...

-So you imagine that when you're coming through this, you see this wall and when you're coming through there you can see that? Because obviously that is not a solid wall.

-Yeah. These are the vertical elements I suppose and this wall is your kind of karma flat water or texture concrete. (thinking) Yes those fins are still lit up from the same effect on the first floor.

-You are not... are they up and downlights or just uplights projected from the ground floor?

-Yeah. And then maybe some lighting integrated underneath the bed. And some lighting integrated above these cupboards. Up on to the ceiling.

Adding light to the wardrobe. Adds bedside lamps. Inside the stair balustrade she copies the Kreon light slots solution embedded into the concrete mould. Asks clarifications for the sliding doors in the bedroom entry.

27:09

-Yeah. Have I missed any spaces?

-I don't think so.

-These areas... (ending of corridor).

-Ok. Unless there is something you want to put on the section that is not visible on the plans... Are you planning to control them in different circuits or ... obviously you're going to put more circuits on there.

-Yeah, should I do the circuits?

-No... no there's no need to.

-Ok. They'll be controlled by type for each kind of function. Like there... for each area of the house or of this kind of seating area.

-So you are going to separate them again depending on...?

-Yes. For example the kitchen: the pendant will be on one circuit, the integrated lighting in to this will be on one circuit and these downlights will be on another circuit.

-Based on type of fitting then?

-Based on type of fitting and the function of the space. So the downlights will be on one circuit here (kitchen top) and then these ones will be on a circuit here (reading area).

-So for example if you're coming home at night and you want a more comfortable atmosphere you're imagining the functional (light) to be off?

-Yeah. Yeah.

29:00

ending discussion and closing

Short discussion on the names and descriptions of light effects. Tina asks how many times the interview has been done. Explaining some backstage details. Joking etc.

-How would you describe this effect here and similarly this you've done here?

-I suppose this effect is much similar to this in terms of the rhythm. This is about binding the different vertical elements I suppose and linking these spaces. But it's a more sort of functional light I suppose.

-If you were to put it on a cut-sheet and propose it to the client how would you describe it to him? Well obviously he's going to be irrelevant to lighting but...

-As in a type of lighting you mean? As if 'breaking up the wall'?

Re-phrasing the question.

-Ah all right. Grazing up the wall...?

Thanking and tidying up the interview table.

PART ONE.

00:00

Briefing takes place

12:33

-The problem with this house is there is a lot of... This is a very good connection (living room access) in this access. But this way (transverse) it is a bit separated in a way.

Some more briefing takes place by the interviewer. Tom asks about the entry and exit door transparency and it's being pointed out to him that they both made of glass. He asks about the most dominant, most likeable element of the design of the house and the hypothetical users. He's pointed towards his own preferences of interpreting the space. Looks again at the model.

16:35

-Something significant about this is that staircase because this is the main access (points along the corridor) and this (points along the bridge line). This cross is the main movement of everything you know.

Draws a yellow line along the corridor that wraps around the staircase and continues as a cross to the bridge line up to the bedroom. Draws lines along the contours of the living area leaving outside the recessed library space.

17:46

-So, I think there are two points: First, the circulation of the house, may we say? This is this access and this which are the most dominant. And I like the fact that the staircase is here and the balustrade can be a good thing that can orientate the lighting, to orientate the space. Because I saw there that your steps are starting somewhere here, so I want to have something like a continuous like this. The second thing is that in the main space, this zone is where your activity, the rhythm is more dominant than in the library...

-The rhythm?

-I mean these two (entrance seating & kitchen) need more uniform light and more... kind of brighter light while the library... and it's quite good that the library is there. This are could be one where the light levels are lower and this could separate the two. Because the space is (unfolding) more in this way (from left to right) in the ground floor you know.

Asks to see the ceiling of the mezzanine level.

20:07

-Five metres? So it's quite empty here, so it's going down. This will have a stand wall here or it will be just the furniture?

-Yes you can have one. How would you imagine that to be? How do you imagine the detail of that?

-Difficult to say.

-Or do you want to get the concepts first and then... ok. I don't want to get you out of your route of thought.

-Because this is kind of empty room around here and I don't...

Covers with yellow hatch the entrance seating, kitchen and library seating areas. With a yellow contours draws over the curved wall. Starts thinking. Asks about the requirements of finalizing the design. He is being explained the level of detail required. Hesitates to start committing himself for several minutes.

25:52

-So this one, the staircase, is there like this, this is the balustrade, so shall we say there is a line of light here to backlight the whole surface. It comes from the floor...

-So it's like a detail on the floor, where the balustrade meets the floor?

-Mm. It goes straight through across the...

-So it's revolving like this?

-Mm. That's right. And I want to connect that with this access from the entrance. We can have a slot here... can I?

-Yes. Is that ceiling or floor?

-No floor. That's linking... with this. They are having the same colours.

-Does this continue?

-No it stops there, but you can make the connection. So it's about circulation. Suggestion of circulation of the house I'd say. Many people would be tempted to light those blinds but I ... no.

Tom checks and marks with crosses the void in the mezzanine level and asks if this is going up to the ceiling.

28:28

I'll have some downlights here, under the bridge to the main... All these area (kitchen) will have only downlights. Just downlights on the ceiling. I will quite like to have a suspended pendant in this area. But it should be like a pendant which is formed by small... it's not a big one but comprises of small parts and it can go through this (the fins). You know what I mean?

-Something more organic and fluid to interpenetrate the fins?

-Yeah. It doesn't have to go through like this, but this connection between the two is what I quite like. It's a double-height space and it's not really a closed space but I'd like to make the connection between this and the workspace. Hanging from here; you see?

31:16

Let's make something that is easier to recognise.

-May I ask why did you choose a pendant for that space?

-Because you don't really sense the difference in space (levels?) here, in this house. And I quite like this double height space and I want to make people aware of that. Because there is a lot of dividing walls and I feel it's been cut into pieces in a way, you know what I mean? And this is a place that I feel I have to make it significant to people; to make a connection; to see that different. And I want to make that connection between these things.

-Ok I quite understand your point, yes.

-It's isolated in a way this one (the workspace). So basically for the circulation I will use this staircase and the slots on the floor. In the entrance of course there are some downlights or something, also very important. For this main space, this would be bright with downlights for tasklight...

-All of it in downlights? So you imagine an array of downlights?

-Downlights. The library and the living room should be more ambient and like tasklight... rather than uniform lighting. It's quite difficult when you have the skylight and I really want to make a connection with that but...

Clarifications on the projection of the skylight symbols on the plan drawings.

-I remember before that I did a project and I suggested something very stupid: they had a skylight like that and a terrace back to back with each other. What I suggested is that they have a street light up here... to provide light down there! Of course they didn't like it.

-You wanted to imitate the daylight? Or make it more theatrical?

-I wanted to delete the boundary between... because it's quite a big skylight. So I wanted people to feel that they are not in a space... deleting the boundary you know. Because you expect to see a streetlight in an external space...

Ok we'll do something like this. I just want to make a connection between this library and the living room. And I should draw that for you. This line is actually like a modular square from maybe Modular... they do a lot of those. But they do them in different sizes. Lets say this skylight is like a big square, I will have a small square here.

-Oh I think I know the fitting you mean. It's called something like 'square moon'.

-Yeah but the trick is in this corner, where this connects to... you have this fireplace. So in this corner... they have this fitting like this, and I really like it. I always wanted to use it but I've never had the chance. It's like in a 'L' shape, like that. And I want to put one here. You have to do it in graphics. You have to arrange it in a way to make it make sense.

-So, arrange the luminous surfaces against the dark in a way that the pattern makes sense you mean?

-No I mean, it doesn't have to... The start point will be here and to treat this big skylight like a part of it. Like a square. To go down here and go down to the library. But of course in reality you couldn't have that many sizes of fittings, but that's the idea. To start and to stop in this ceiling (library ceiling) with one or two of them only. Provide a bit of ambient lighting because I want it to be diffuse. To provide a little bit of lighting to this sofa. Then some light will need to be this (coming from the library) and we need some task light for...

Interviewer asks clarification about the yellow hatch in the library. Tom replies it's downlights to provide light to the shelves. Adds some tasklight for the people who read. Says it's difficult to place a floorlight in there because of circulation reasons. Closes by saying it's a narrow space.

PART TWO.

Tom is prompted to repeat lines unrecorded. He explains the necessity to put something over a dining table. So he suspends a pendant of the same family to the wall mounted fittings. Adds some floor lamp in the same space. He repeats that the downside of the space is the lack of windows and the consequences on people's awareness of the boundaries. Declines the idea of putting something by the fireplace as 'too much'. Copies the pendant in the living room from above, copies the downlights on the underside of the bridge so he finishes the upper side of the house and moves on to the workspace.

In the workspace Tom hesitates initially because of the lack of furniture, envisages a curved desktop along the curved wall and decides to go for three pendants because of the high ceiling. Adds to that some desk lights and floor light and moves on to the second floor.

04:20

For the bedroom area Tom remarks that as a space it stands on its own separate from the others and consequently not affecting the whole lighting composition. Tom makes a comment about the skylight and the position of the wall hiding the view in the bathroom. He defends that privacy can be protected with blinds.

08:05

-You will have the wall just next to you. It makes sense when you live in the city but it's not... The skylight is the last choice because they provide you with something that you couldn't get

(otherwise). Even in this room (entrance seating) the skylight makes you feel more like you're in a 'box'. You know what I mean?

He is directed by the interviewer to do as many changes to the architecture as he likes. Tom then starts to review all the blind walls: in the entrance hall and the curved wall in the workspace. He marks this visual access with double-barbed arrows. He decides to stop reconsidering the space and continue working with what he has.

10:40

-So I would have (marks two downlights)... no I wouldn't have downlights I would have reading lights on the bed. Downlights in the bathroom yes?

-Downlights? Two spots then? There and there?

-I know... this should be something nice... Straight forward.

He is being reminded of his initial intentions of doing something simple.

11:11

-I don't see the point of putting light into the bedroom or toilet because there a lot of ways to do that and people will have different ideas. This is quite separate from the whole picture of the house. It doesn't affect the house that much. So ok I'll leave it like that. This space (entry) should be bright enough for you to get in but for this I think that task light and reading light and some straight forward downlight fro the toilet (would be enough).

Being asked if he has to add anything for the external lighting to the scheme. He asks about the underpass use. Asks if this space will be used for sitting and relaxing or has more the use of a passage, a way-through. A short demonstration of the external spaces again in the 3d model helps him get a better idea. He then decides to put some low-level wall lights along the passage wall and a streetlamp-like lantern on the underside of the canopy.

Tom expresses difficulty in proposing a complete external lighting scheme because of the lack of information for the extended landscape. He goes for uplighting the trees and adds wall lights on the front yard wall.

16:48

-I think it's enough. It shouldn't be bright. This one is quite interesting in a way (middle yard). Because the kitchen is looking out. But it's funny that this space is like it's built just fro the trees. You know what I mean?

-No. Because it sits right in the middle?

-Yeah. You couldn't sit here it's too tight. You can sit here, there I would say... ok. Look at that bench, people can backlight the bench or something and connect these two there...

-Unless you put stuff in the niches, someone could sit there.

-I know but this is coming more to detail, isn't it?

On a discussion about a general strategy Tom refines the lighting strategy for the kitchen and becomes more specific.

-Actually I wouldn't say downlights for this. Only downlights. But I would want it to be uniform.

-There are many ways to achieve that unless you put fluorescent isn't it?

-I would like to make the niche look beautiful so you can have some downlights in the niche and light the cupboards.

Tom makes a sketch of the cupboards and a source under the upper cupboards to light on the counter.

-And this main area will be covered with downlights. But generally this would be uniform while these two (library and entrance seating) will be more ambient and task light.

Interviewer makes a quick summary of the lighting scheme Tom has proposed. Tom decides to add another piece of linear lighting on the floor in between the corridor break and before the stair starts. To enhance the connection. He quickly deletes it though when he thinks in perspective.

-Yeah if you look from here, you can make the connection. Because the balustrade is a surface as well... of course it will be different from the wall but I think you can make the connection if it's the same colours... lets say light blue or cold white. Something like that. Ok.

Summarizing continues. Tom then questions the need to have downlights under the bridge but leaves it. Specifies the table lamps and task lights according to furniture in the library. He underlines that the pendants are following the curve. Adds potentially some light on the shelf along the curved wall; he makes a spiral move generating from the staircase circle.

-So you think if you put too much light it hinders you from looking out?

-Of course people can always turn off the light but the problem is that usually if there is light, we turn it on. And a bedroom is always a place where you calm down and you need task light and some downlight on the ceiling and that...

-Yeah. I missed the downlight that the put in the entrance to indicate... yeah one in the entrance one in the exit.

-Yeah. I want this not to be too bright; then people can sense the light from here and from here rather than from... so this... you orientate yourself with this line here but it's dark enough so that you can see the main space. You know what I mean?

Repeats for clarifying purposes.

-What I mean is that I want to keep this corridor reasonably dark. So that you don't get distracted. So you can see the light from here in a way. Like you walk coming from a dark corridor but you see two bright spaces on the sides... but you can still orientate yourself in this. Because it should be divided in two. If everything is bright it could be... nothing will stand out you know. And then you have this feature. When you look at it from here, you can see that (the pendant).

24:14

-And for the external can I ask you why did you chose that wall? It's quite obvious why you chose that one. But how about this wall?

-Why not this one? I don't know how to get down here.

-Oh. There is glazing that you can have access.

-Oh you can have access ok. I can put light there (as well) if I want.

-There is no particular reason then?

-The thing is that we have one two three four... there is four spaces exterior and it's quite... I don't really sense which is the direction of the view...? Which is the space that people will go out most to have tea...? Or things like that. I would just put wall lights here... No I don't need any light here. The light from this (workspace) is bright enough. You shouldn't put light everywhere. Maybe they need a dark exterior space in a way, they would want to get to.

Tom then asks for the section that cuts across the middle of the house.

27:24

People might be tempted to put downlights in between I think. But I'd quite like to leave it dark so that it is quite separate. If you put lights in, it becomes solid. It separates the two spaces. Rather

Tom

than keep dark and (have) the two sides of it bright. And if the pendant can connect the two, this would be great!

27:50

Ending the interview. Small talk.

PART ONE.

-It's quite difficult.

-Is it? I wish I had some things to show you about what the other people did, so that you have an idea, but I have them at the university.

-Oh, no, don't trouble with the outside, you've sort of explained this basically to me and probably I'd walk round the rooms. Normally, the way I work is walk around the rooms, actually just sketching a sort of design onto the plans and then I'd come back to you and talk through it. That's how I'd normally do it, on site.

-Do you want to do it that way?

-If you don't mind.

-I don't, it's you and what you're leading this, and if that's the way you work...

-That's normally the way I work.

-OK.

-So, I'm going to brief. So, I understand the space now, and if I've got any questions as I go through it, then I'll give you a shout...but then I'll talk you through how I'd light it. It might take a bit of a while. Is that alright?

-Yes, OK, I don't mind. In the beginning, I did try...one set I gave them to the designers to take home and think about it and the other set I just presented them and briefed them, at the same time, and I thought that it worked better the second one because some people were too busy to open drawings and spend time with this, but if you think it's more convenient for you, then it's the same. Do you want to take the set then with you and do it whenever you feel like it...

-No, I'll sit down and do it now.

-Oh, OK.

-And then if I can talk it through with you...

-OK, great.

-...afterwards.

-I'll stop the recording...

-Unless you want to record me doing my scribbles.

-If you're going to explain them later...because I'm going to keep the drawings anyway, so I will have your scribbles.

-As long as that's OK.

-Yes.

-That's what you want.

-Yeah.

(Camera turned off, then on again at 17:32) ...

-Do I have to explain it to you now?

-Oh, you have written stuff, that's great.

-Lots of details.

-OK, so...

18:00

-As you come in, we've got linear strip, recess strip all the way along to here, and all the way along back here and across here as far as it goes.

-Floor, is it?

-No, on the ceiling.

-On the ceiling, OK.

-Just to wash that, a complete wash down that wall, so you've got that linear light at full length and then... that vista. Then, every other fin, a little up light, in between...

-Every other one, and they're central, right?

-Yeah, central, so you get a good, general wash, and just (inaudible) towards the end.

-And may I ask, why every second one?

-Um, I just like that sort of dark and light, I don't like to wash everything, it kills it. So, I think, yeah, I find people just throwing loads and loads of light, it would just kill any atmosphere at all. So that's what thought's behind it.

-OK. And, obviously, it's the same that you followed there, but do you think this effect is going to compete with this one? Or is it like, do you think it's stressed the element?

-I think this is more for general light levels and this is more feature, so obviously they'd be circuited separately, and then you've got these, which are directional spots, to light possible art work, these one, two, three, four elevations. So they'd all be circuited separately, and that could be on the feature as well, which is just a down light in that sort of niche, 'cause that's sort of a gap through there, isn't it?

-This is again a down light, and it's on top of the door.

-Is that a door?

-Yes, it's...

-OK, I didn't realize that was a door.

-You thought it was a ceiling?

-I thought that was just a slot window thing, sort of thing. I thought that was a niche we could put sculpture in and light the sculpture here, to look through that, with that lit. That's quite fun.

-Oh, right

-Art work, sculpture, art work, art work, art work and that would just be booster light bulbs, if you need to boost it. So you can just get completely different effects from...the space can be completely changed, depending on which circuits you've got on and which circuits you've got off.

-I see. You've imagined in different scenes, so you've got them there, and then you've got differences in your mind.

-Yeah, so I can circuit it up, if you want me to.

-No, it's OK, you explained it, so I've already got it on the tape, and when I go through it, I'll know what you meant. OK.

-As you carry on through here, you've just got two very small recessed sort of point sources just to skim across the steps, to the edge of this. I'm not...I wasn't quite sure...

-Are we going that far, you want them very narrow beam so that they cover...

-It's just a very narrow beam, so it's set literally...when you've got to...that's your tread

21:00

sketching

tread, tread and literally put it here, so that you're not going to get any glare as you walk. So, as you look through here, it's tucked right in the corner there, you're not going to get dazzled by it. You're just going to get it skimming across the inside edge, so you've got again, that dark, light, dark, so it just indicates the step. Then, these...I wasn't quite sure what to make of this, because I wasn't sure how the scheme works. Is it completely open, or is it...?

-It's open steps, like metallic ones, so you could see through the height of the steps, and then the balustrade is like up to 90 centimetres, but it follows the...

-It comes all the way round...

-Yeah, but with the gaps inside its not full height.

-Um, If I had realized they were perforated steps, I probably would have...

-You can have them perforated if you...

-If they were perforated, then I ...actually, I don't know, it's quite, it might be quite fun just to up light them, so you'd get all the shadow play on the ceiling.

-Up light and then put the source behind the step...

-Underneath, put the source on the floor, so that you get sort of shadow play on the ceiling through the treads, and then also you'd get...it depends on how open the treads are, really, you don't want to be dazzled when you look down...but also you'd get, you see, if they're open treads, so like that, like that, you'd get the light hitting there and bouncing that back down onto the step itself....

-That would be a nice effect, yeah. Actually, could you make a detail of that, so that...I don't think the explanation will be enough for...

-This?

-Yeah.

-So, um

22:54

sketching

Can you read that...

-I meant actually a detail like this, because, yeah...but it's OK, yeah, I think...

-About the recess into the floor? It's just literally flush with the floor. Then...in that space here...

-Coming up the stairs...

-Yeah, so this is a whole open plan space...so, firstly, you've got these, which are washing up in between the fins, so you'll have this again shadow play just going...where are they...they'll sort of go like that, like that and like that, which is quite fun. It'll be really fun on the actual ceiling. Then, I'd probably want a really large pendant hanging down in that space so that you look through the glass and you've got this massive, great big feature, and then this again is a sort of recessed cove, it's a cove in the ceiling, so there's (25:00 sketching), it's just that, basically, that's what I

understand, which runs all round the perimeter here and then we go all fluorescent battens or cold cathode there.

-How would you call this effect?

-Cove. Cove lighting. I think that's just going to give you a boost of general light, it's not...it's only going to come down the wall by, well, I don't know, probably about 800mm, so then in between let's put in some...

-Down lights?

-Yeah, put in some AR111s maybe or AR70 light sources which will just skim light down the walls and get that scalloping down the wall.

-Oh, that's strange, so you're combining an inner effect and a scalloping?

-Yeah, so you won't actually see the spots because they're recessed, well, you will..., um, but they're that high you're not going to really notice them. I just thought because it's such a high space just having the cove, it's just, it's going to be a look rather than something that...

-So, you added then a second thought? For functional reasons?

-Yeah, just to boost the light a little bit more and you'll get the sort of colour play, the white lights and the quite cool white light from the cold cathode or whatever and the warm tungsten on the other circuit so you can start playing with different scenes. And that only goes to here, so you get down lights that go all the way down to the actual...into the double height space, but, is that...that's a door below, so it's actually not quite as long, so I just stopped it there, and this will just have the cove that stops here.

-And you have also this down light?

-And I pulled that one out to here so you have a pool of light on the floor rather than it skimming down this half bit of wall. I thought that would be messy. With me?

-How would you describe this effect of...if you were to put it on a mood board, and you contrast this effect here which is more linear, and this one?

-If I was to put it on a movie board, um, really when I'm on a site just sort of talking through it, I'm normally just trying to explain it, I've built up quite a good sort of vocabulary and, it's taken a long time, but I can get people to understand, somehow. I don't know, if it came to it, and the fee was high enough to do it through individual images, then that would be fantastic. I've got some images of up lighting and down lighting walls...

-So you'd use them in an image-centred description but there's not an example of a naming of an effect that comes to your mind?

-The only time I've done it before, really is in a... I did a basement once, which had a sort of barrel vault and recessed into the wall were these little up lighters with a little 20 watt capsule under them, with a reflector which would sort of light up the wall like this. So basically it was set to a plan...that's the basement with the barrel vault here, I put fittings there, and there and there so get this vaulting, barrel vault effect and it looked like you know, normally, sometimes in churches you get that sort of vaulting effect... I'm not sure how you'd explain it, you get that vaulting effect in the architecture, right, whereas this was just a plain vault, a plain barrel, and the light created the vaulting. And I think that would just be...

-So, you see this as relevant, this effect as relevant to this effect.

-Yes, yeah.

-OK.

-Just using the light to create...

-So, basically you would use metaphor, like similar to the ...yeah, or another...image in another space...

-Have you seen the bridge at the ...in Kew Gardens?

-No.

-OK. There's this beautiful, linear bridge and they've got fins of wood for the balustrade...

-The one that has, where the light fades up...

-Yeah. It's like a ribbon. That's probably the image I'd show them, or one of the images to show them the vaulting effect. I think you'll get a slight degree of that there as well, which could be quite fun. I'm just trying to start to build scenes through...I wouldn't have everything on all the time, but sometimes you want just a purely utility scene, so it's lots of light, but no feature and sometimes you want the really dramatic sort of effect when you've got this vaulting almost on the ceiling. So I probably, I'd probably over-spec the lighting, but then, I rely on the...it's not to make money, but it's purely to, I just rely on the control to actually create the scenes afterwards, it's just essential, then you're under-running all the lamps and it lasts a lot longer.

-This is the functional element of your idealistic world; you don't care about money and energy.

-OK, OK. This is the glass balustrade, isn't it? And I thought, I don't know...um, I thought that could be sort of glass frosted etching, so in the glass you'd just have a pattern frosted into the actual base and dying off towards the top and then edge lighting so the only light strip would be set in the floor, up lighting the frosting, basically, just catching the frosting on the way up. Just for a bit of fun.

-I see you've done something with that wall there.

-Yeah.

-You're the only one that noticed there's a wall there, and it's a nice opportunity to do something. I'm surprised.

-I've been studying your sketch. But, this is, that wall only drops down to half height, doesn't it? Nice.

-Yes, exactly. And it's visible from the work space, from various vistas within the house. People tend to ignore it, others, after I've interviewed, didn't even see it in the drawings.

-

Well, I just thought that that area would become quite dark in comparison to this, so I thought that would be never-ending, so it's exactly in the centre of that wall and just keep the light up and down...to go on with this circuit here. Just a boost.

-OK, so this is ceiling and where this volume ends...so up and down?

-It's...

33:40

consulting computer

So, where are we? So, they're quite big walls, really. I'd put a centre, a strip along there...a wash up and a wash down, or I'd put a directional spot into there to highlight some artwork in there, double directional, and a single. Probably wouldn't do it there, actually. It'd be quite nice to have something there as you walk through, have something lit...OK.

-OK, yes. Are you feeling alright with your ...

-Never-ending....

-Never-ending.

-Yeah.

-OK.

-Shall we carry on down here again? So, this area, I was thinking of just, so in that up stand to the glass, if there's... it's probably a sort of library, isn't it.

-OK, you are....yes.

-So, it's probably a library, so I was just thinking maybe just painting the inside white... that's where your glass starts. Hopefully creating a recess in here...I need a strip or something to wash light into this, but hopefully, have again the same sort of frosted design...

-Why are you lighting the roof, you think it's a nice feature, or ...you think you don't have anywhere else to put the fittings?

-There aren't many opportunities to light that space. There's lots of, I don't know, but, I just thought, I don't know, I just wanted to pick up the frosted glass, the etching in this walkway, and repeat it here, so it's not completely frosted, you can still look straight through it. Part of it's clear, but, at night when you do light it, the frosting is picked up and you can have it...well, I wouldn't want a colour change or anything, I'd just want some choice of really nice colours which would create a warm, cozy feel in there. Sort of golds and then that is just... (end of film)

PART TWO.

-..... That's a really big, sort of over-sized reading light, task light. So great big shade and you can push the lamp out of the way or pull it down over the seating area. Double directional spots to mark some art work on that wall...

-Spot lights on the ceiling, yeah, and then another

-And then for a floor standing lamp

-Are you thinking circuits when you're designing?

-Yeah.

-OK, I thought so.

-Lots of. I just need lots of flexibility so I can create my scenes. Then here, linear strips underneath the nosing of the step, so here ...is that your step? So, it's just one step, isn't it? Is it? So that drops off to there...

-Two drops.

-So it goes, that's light, that's dark, that's dark, so it's the one step, you walk down into it...

-Is it also a way of defining a differentiation in the level, or...?

-Yeah, so you don't fall. It's partly so you don't trip and end up in the book case. It sort of creates a boundary, a lit boundary to just delineate the actual space itself. Then here, I looked at your sketch up afterwards, but I was thinking that would maybe not be built all the way to the ceiling, so you'd have an open, that would be maybe an open shelf above, and you can see all the fluorescent strips on top, so you could boost the light levels up onto the ceiling....So they're just strip lights, concealed by profile, so that would boost light levels there, this shelf, that would just be a linear strip, washing the face of the books.

-So, if I've understood well, in planning it would be like this, and you would have the source, so this would be gap?

-Yes.

-OK.

-So, I don't know if you could put decorative objects on top if you want and just have strips behind in a halo, which is quite nice, and it also acts just to boost light levels. Then, that's on the face of the books, so you'd probably just have that detail, so that's your shelf, and then you've got your books here, just washing the face of your books... That's there, and then these two, I'd, it looks like sort of maybe a little television room or something, so I was just thinking plasma and sensor, and then I'd probably put, this is shelving, shelving, shelving, shelving, but then I'd want to put the light source behind the shelving, say at 50 mm off the wall, so you'd get that halo effect again. Slight depth of objects here and here, so that...

-So, I'm not sure I've understood that, you said it'd be 50 mm behind the shelf...its transverse...

-The shelf would be, that would be the shelf, and that's the shelf itself and that's 50mm, and then you've got your light fittings, they're here.

-So that's your wall? The back wall of the library?

-Yes, that's your shelf in the middle, there...

-I see.

-So you get this glow, and you've got your objects putting a halo up here and here, so that's your fun, that's your nice, decorative circuit with your books there on top which can be on one circuit and then you've got this to boost light levels on another. You could even go to put a linear strip underneath and create a floating effect.

-I see why you wanted the furniture detailing.

-Yeah, yeah. It just allows you...once you've got all the details and elevations, the bathrooms and any joinery it just allows me to be a bit more creative and build up an important feature, instead of bits and pieces.

-OK.

-Otherwise it just can be quite bland. Then, floor socket there, maybe a floor standing task light there and again I was thinking of picking up that fitting here. Kitchen, just literally double-directional spot lights, probably with...

-And triple one on ...

-Yeah, so you can go that way, there and there, a real boost, but then that's double that space, isn't it?

-Except four meters is less than this one... We don't need to check this now, it's just the effect. You have....

-That's a glow underneath that sort of table.

-So, linear?

-I'm not sure. I don't know. I wasn't sure about that, to be honest. That'd be quite fun.

-It wouldn't serve anything; it would just be for...

-A bit of fun, really. OK. I've got to admit, I probably wouldn't do it, but that's a breakfast bar, so it's quite fun. No, I wouldn't do it. And also, I'd put one here so you've got your art work lit, and you've got your low glow here when they're not using it, and your niche is lit all the way along, and this is your...

-A combination of down lights on top of the niche.

-These are... that one's a high level, that one runs from the work surface all the way up to the ceiling, doesn't it?

-Those ones are quite big, those ones are low

-So.....

-Those are low and those are higher. So...

-So, what I thought, because that one was from the work surface up, double the height of that one, I just wanted to put two tiny little LED wall light up lights in the back corners just to create a halo effect in there.

-In the back, OK.

-Put a bit of sculpture or something, just as a feature and that one would be more, sort of somewhere to put something, so literally a down light in there. These one, just thought we'd put something behind the shelves again for that halo...similar detail to the library, there and there, and that's a down light because that's just a small niche and then this one's...two uplights, 'cause it's full height wire's, you've got uplights either side and down light for the sculpture or something...So, it would be...you've got a little niche there, so it goes like that, doesn't it? So, a lovely little up light in both corners. You've got the sculpture here and it'll just light the face of the sculpture. (Is he saying up light or up right?)

-Oh, I see...it's more of a theatrical technique to illuminate the....

-Yeah, so that will just sort of put it in, give it a silhouette, so it sticks out, and then that will pick out the detail. It's a really nice one.

-Have you extended the wall, or is it my idea?

-That was extended on there, so I thought I'd...it was nice that you extended it. I thought it had been cut off.

-Yes, I missed that. OK.

-So, little spike spots and again can't be seeing this from anywhere.

-No, it's only, no, there's no views, in summer season we'd get out and do some stuff there.

-I don't know. I'd really want to put some sort of textured wall on this one, something which is, I don't know, rough texture

-Stonework...

-Yes, sort of, I don't know, just, they used to make walls with blocks of stone, didn't they. Just mud, basically so you've got all the texture highlighted. Quite fun.

-Would you repeat it on the other stair spaces as well? The intermediate yard and the undercuts...

-I do quite like contrasting textures, I quite like the fact that it's, you know, you've got a really modern, angular shape here, which would be better rendered, and just perfectly finished, and this could be, because it's more curved it could be more textured and, I don't know, I just quite like the contrast.

-But all of it is very geometric, isn't it?

-Yeah, so I was hoping to just to make it feel a little bit less like a hospital and more sort of like an old house, with the old stone wall and that would be just make it feel a bit more inviting almost.

-More human scale, I see, OK.

-I didn't do very much with this.

-That's a supply?

-Ah, yes. I've got a supply there and a supply there, so you look through, and you've got a sculpture lit, sculpture, sculpture, so as you walk through, you've got that beautiful vista. Sculpture at the end here, that probably not there, but...

-Or maybe further away from the access.

-Yeah, yeah.

-It's a nice idea.

-It's quite fun. I was getting quite excited. It's a shame it's not going to happen.

-You can take the drawings...

-Yeah, I think I might do. The bedroom. Not very much, really, that would be linear cove facing the bedroom; we'd do it for St George.

---For my experiment you're using St George solution...

-Well I'm thinking low energy; I'm trying to figure it in quite a few places. Just to save our environment. So, yes, that's a cove, just to wash down the face of the wardrobes, or if it's not all the way to the ceiling, we can just put them on top to give a boost. And then that isn't all the way to the ceiling, is it?

-No, it's up to 2 meters with lower walls.

-Yeah, so that would be fluorescents concealed on top to boost light levels again.

-So they are on top of this wall...

-Concealed, just for a boost.

-And they are creating pools of light on the ceiling.

-Well, it would just be linear strips, so it would just be general diffused light, lots of reflected light back down with these...Then we could do big lamps either side, so you don't have to have your coffee tables, well you can put anything on the coffee tables, not a big lamp. And then...linear strip behind the shelf again. Just there's just one shelf in the middle there. This is just I even thought of a sort of linear strip that would go from floor all the way up to the top, because that doesn't hit the ceiling. We'd just have low level...just a little one of those, just for a glow to the floor either side, so when you do want to use this... and then you've got low level glow either side, it doesn't affect the person in bed and maybe...

-What, sorry?

-And maybe illuminate some of the bathroom. And double directional light to highlight artwork on there, probably just a single one there, to be honest...and then probably a niche in there, with some sculpture in it, and down light, so that it looks, rather than having downlight. So you've got something to look at...

-Yeah, OK and focus.

-So you could have your cupboards underneath and on either side and that would be open section. Then, just directional spots to light the front face of the mirror, and then that would be the mirror there and you'd have 2, a couple of florescent strips either set behind, concealed by the profile, just to give a glow to this whole section, so you've got...

-A halo effect, then. Ah, you've written that.

-Yeah, so...I'm not sure how it would work, but at least you get that. I think that's going round there. Quite nice. Down light over the bath, that would be just a linear strip to indicate the step up, if there's a step up there and these are just two little LED wall lights that ...

-Again in the curvy corners

-In the corners, in the bath side. Up light in there.

-Up lighting or down lighting?

-Up lighting.

-Yeah, and if that's your window there, it would just highlight, sort of frame the window. You've got a view of this picture window out. Otherwise, I thought, maybe as you come in through here, you could have a couple of lamps, art work here and then maybe do the same here, so you, so this glows when it's shut ...so this is, I don't know ... shows you a screen.

-Yes, that's the idea, isn't it?

-That's all done.

-Yes, I think it's very clear. You've done a lot of details, so...

-Is that enough for you?

-Yes, it's more than enough.

-Is it? That's good.

-Thank you very much for doing this.

-No problem. It's been fun. I enjoy it, I really enjoy it, so...

-I was afraid that you might be very tired and you just didn't want to sit down and think at the end of the day.

-No, I love this bit, this is my favourite bit, so, yeah, it was fun.

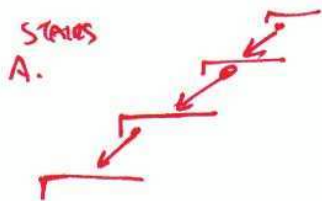
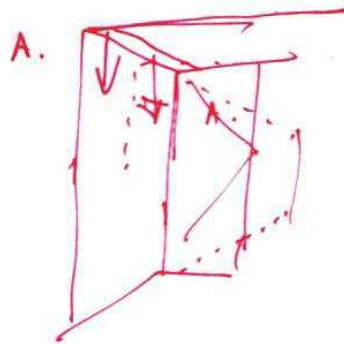
-Alright.

-OK.

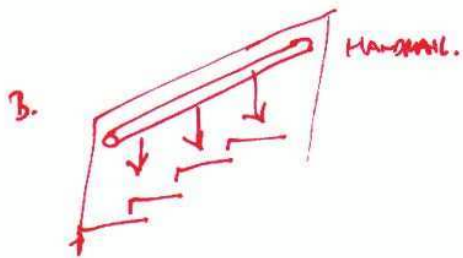
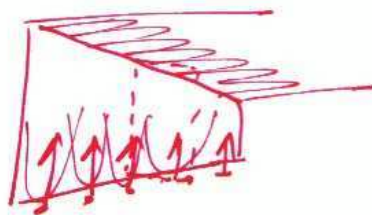
-Thank you very much.

-No problem.

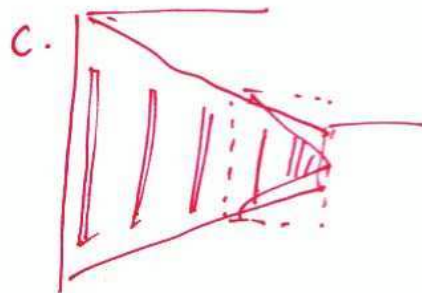
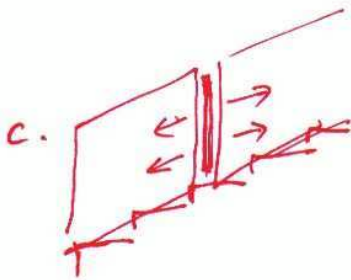
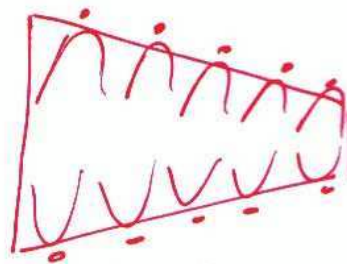
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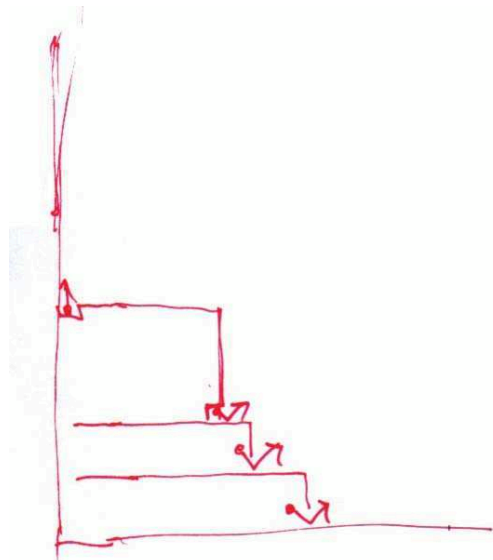
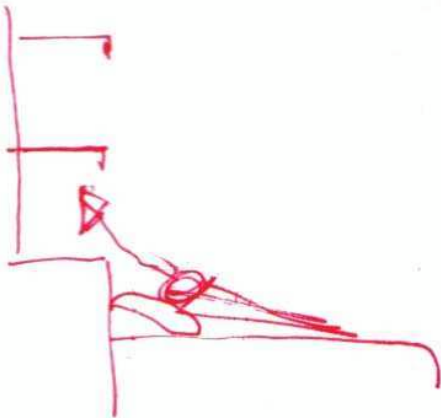
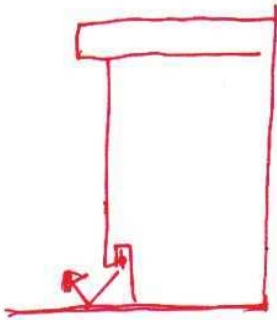
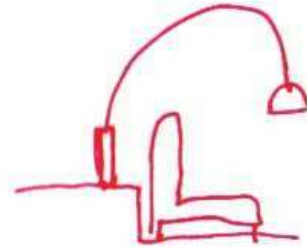
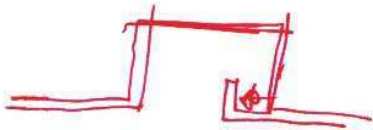
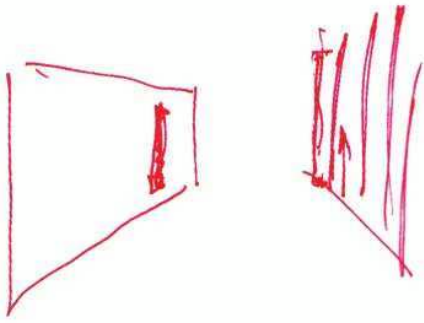


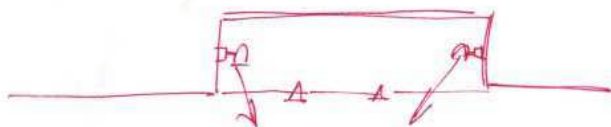
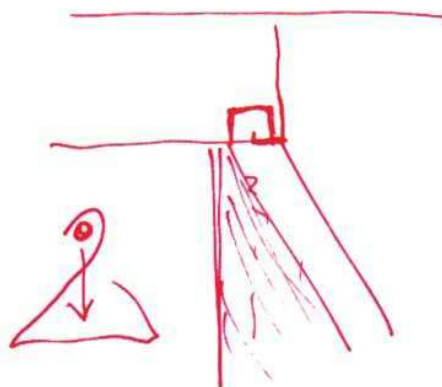
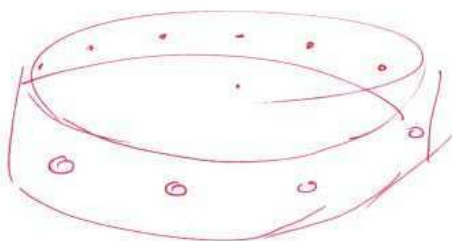
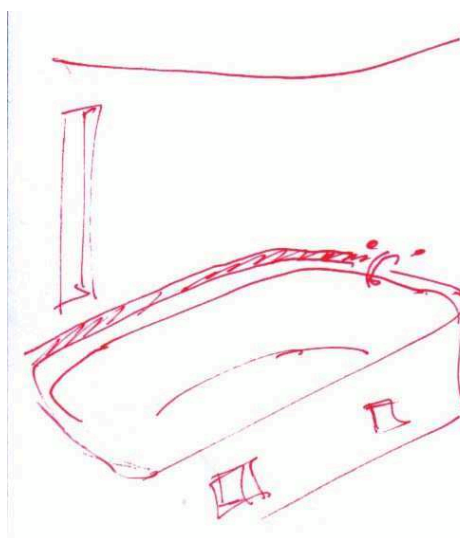
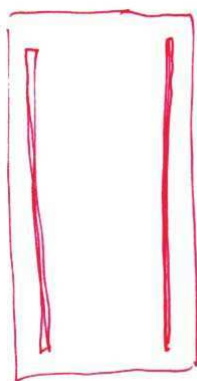
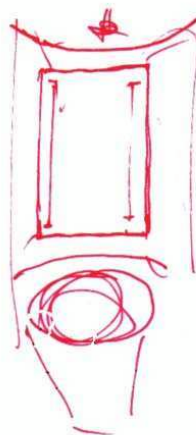
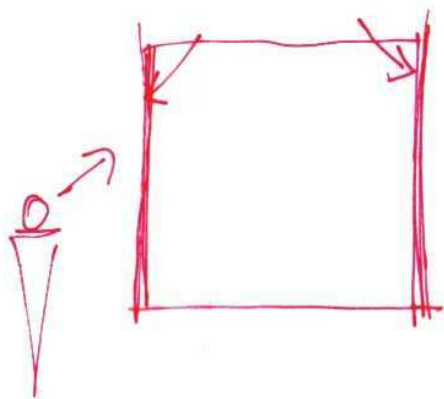
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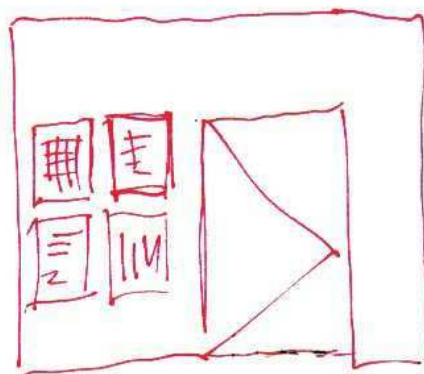
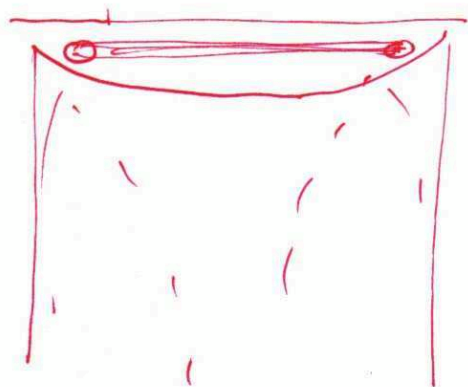
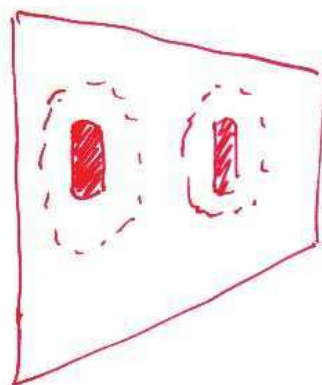
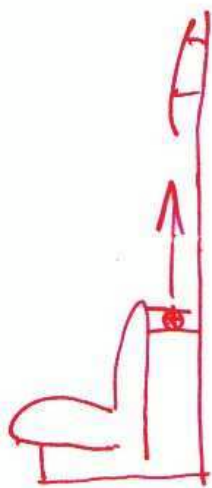
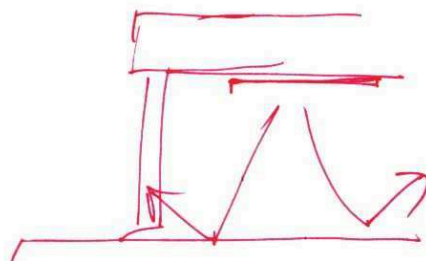
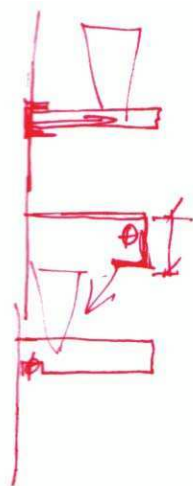


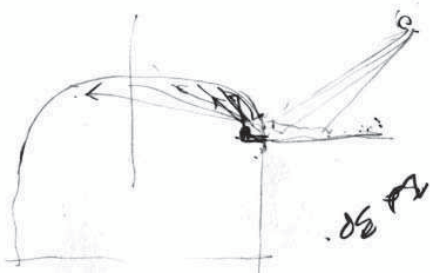
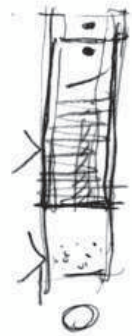
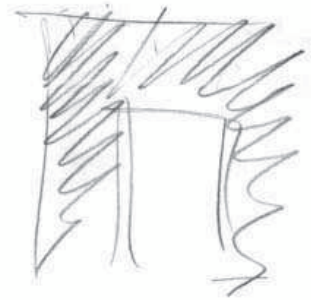
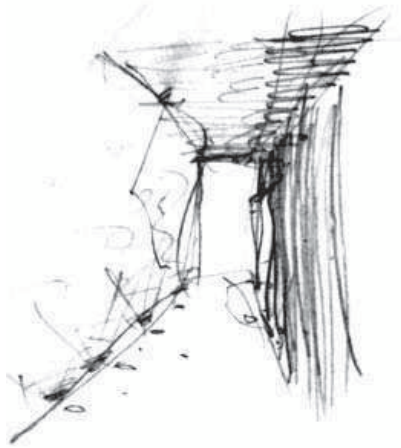
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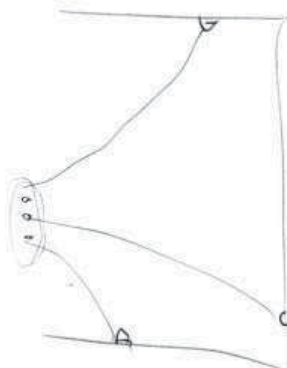
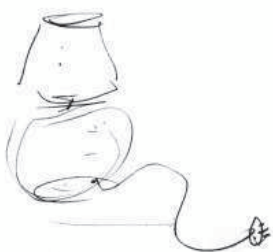
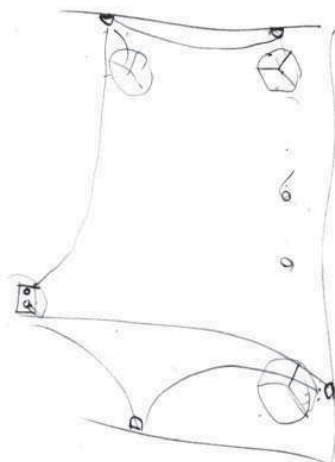
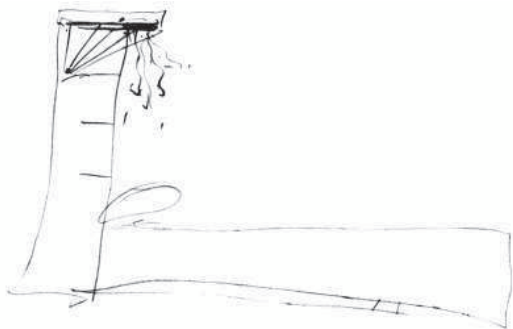
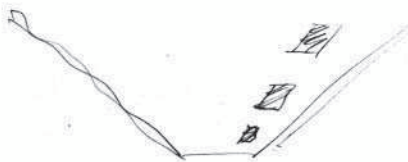
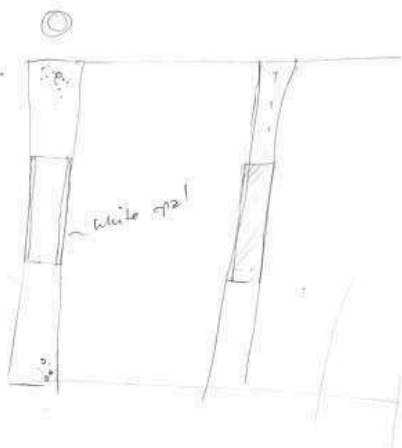
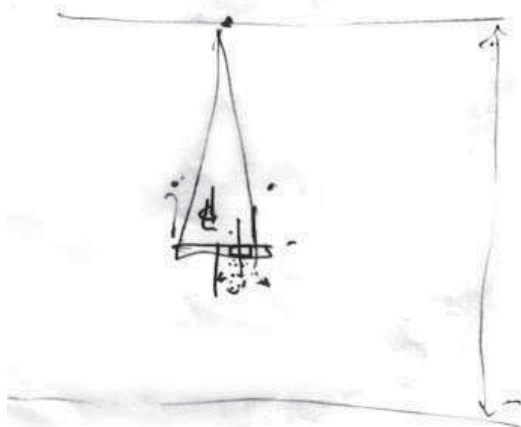


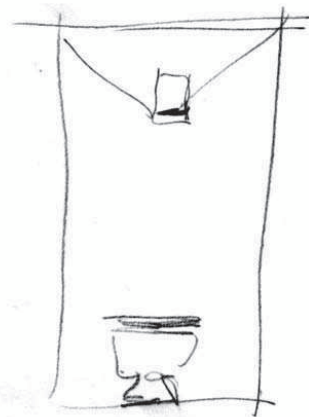
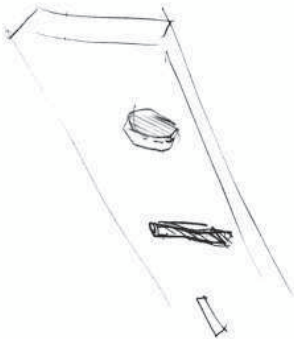
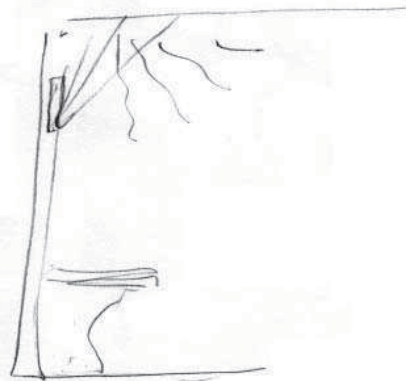
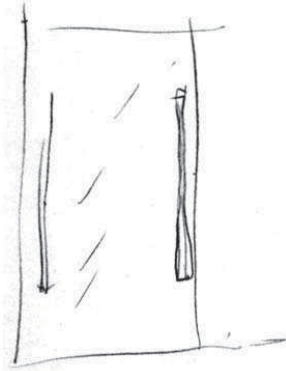


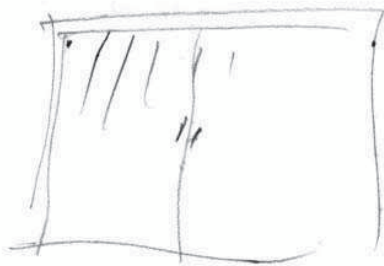
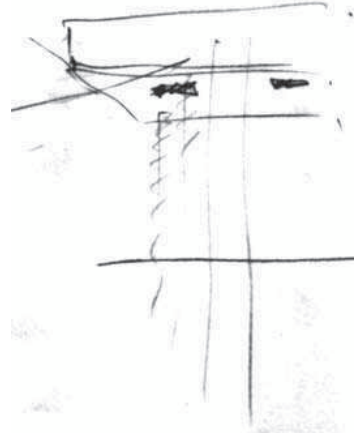
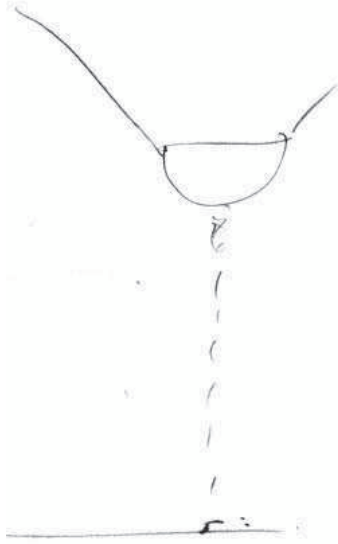


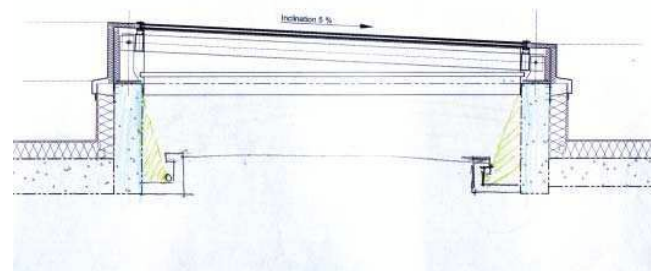
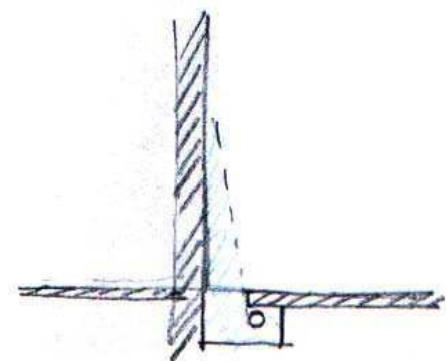
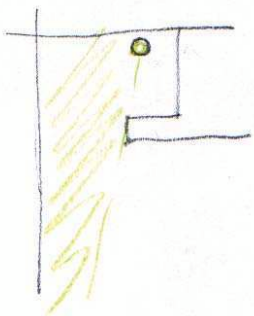
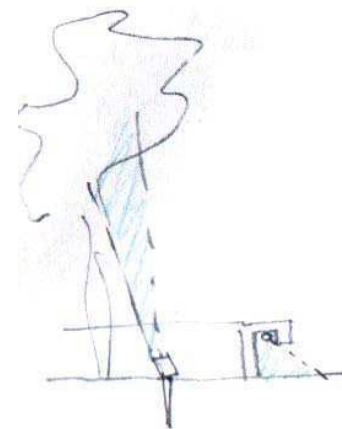
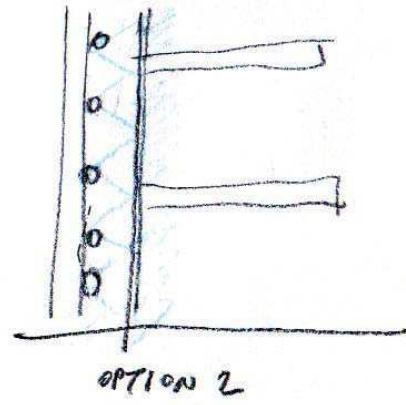
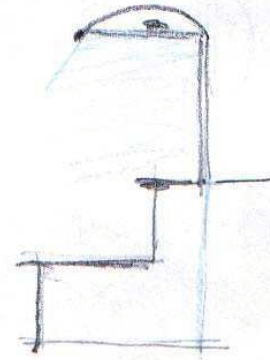
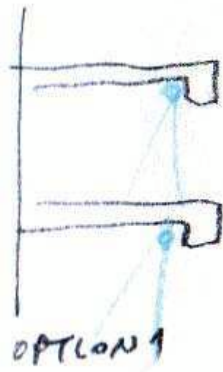


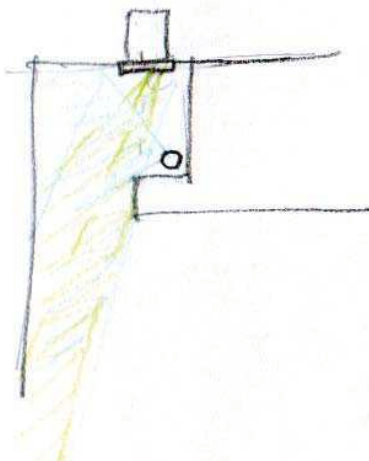
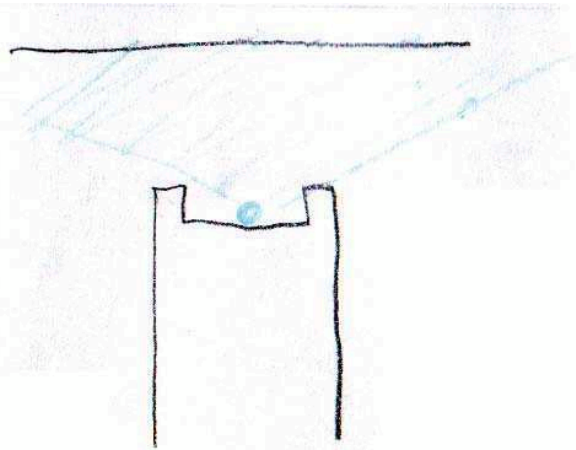
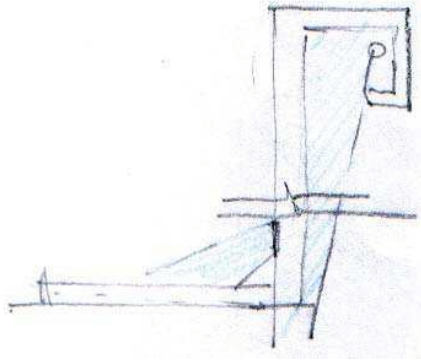


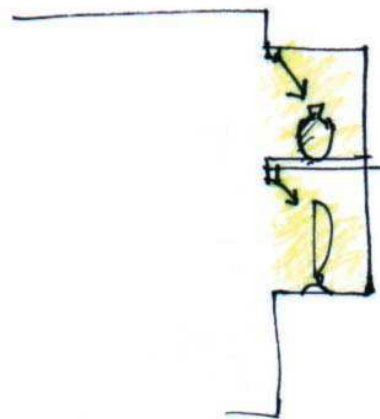
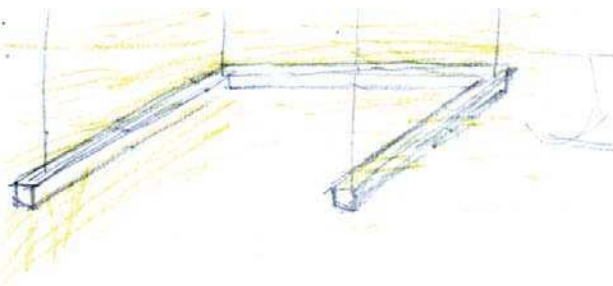
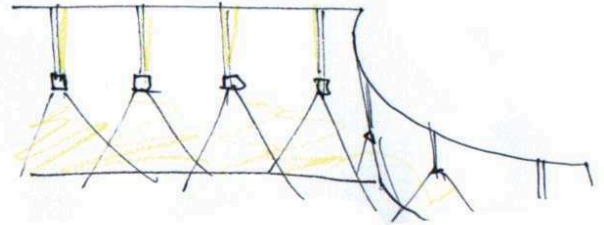
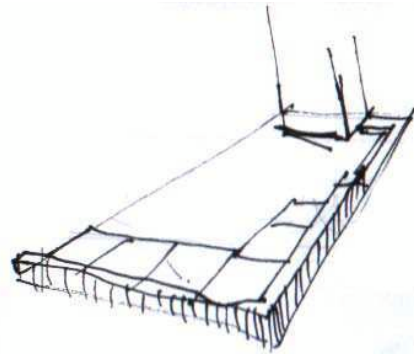
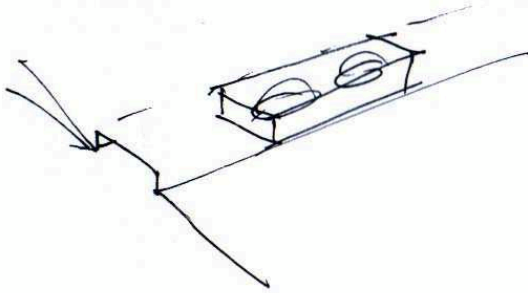
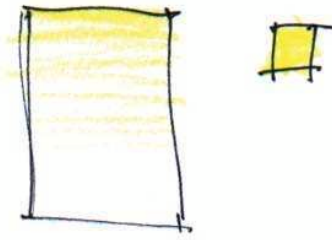
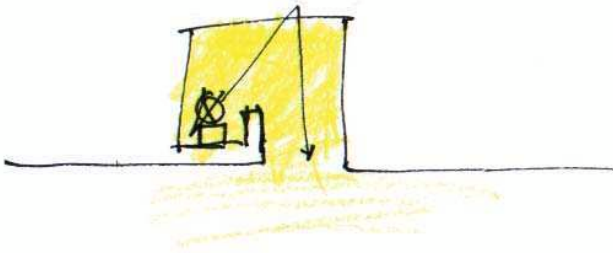


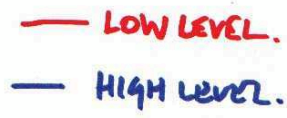




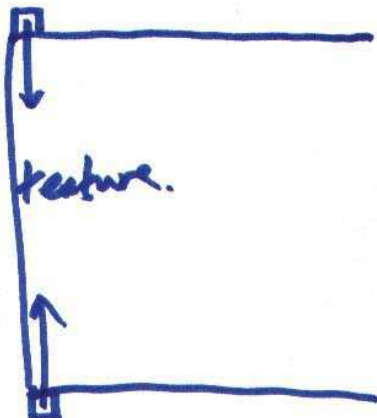
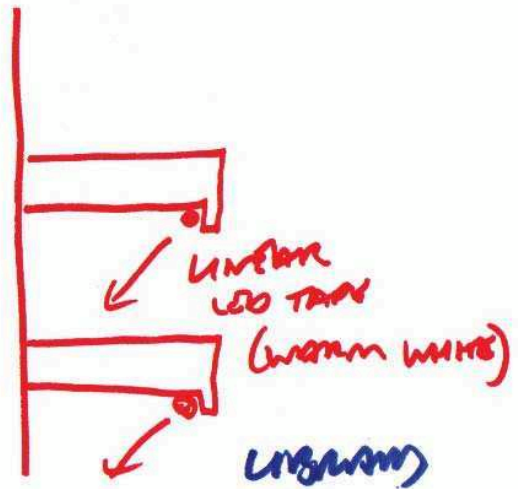


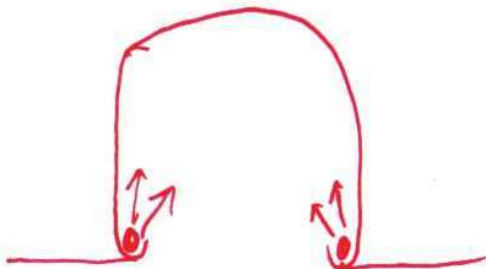
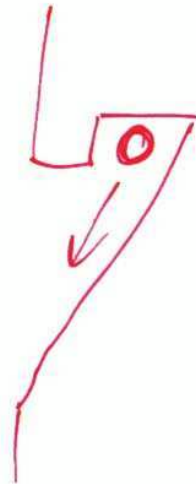
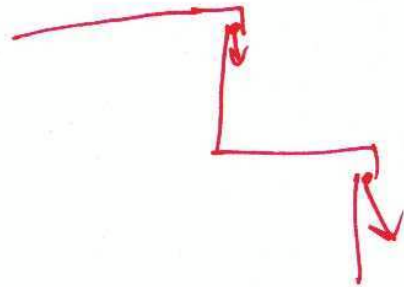
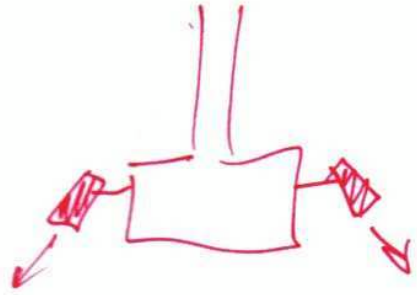
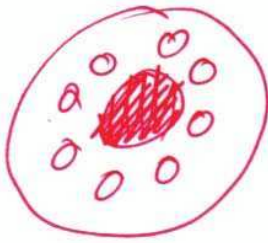


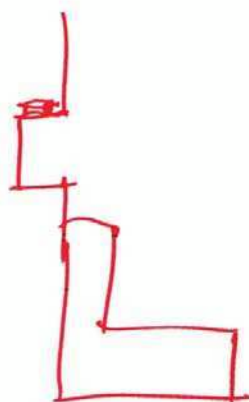
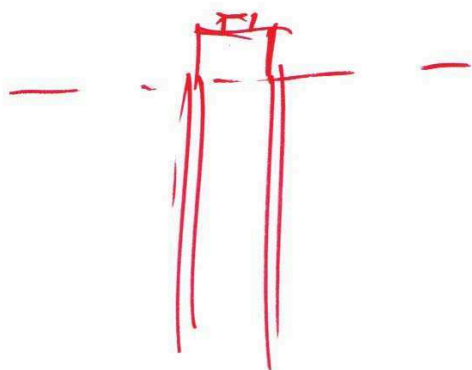
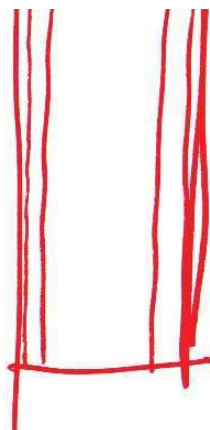
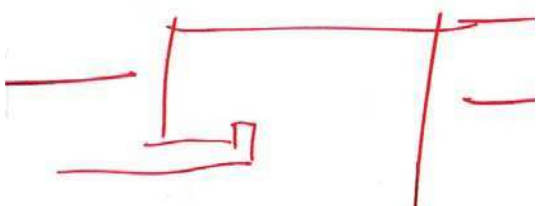
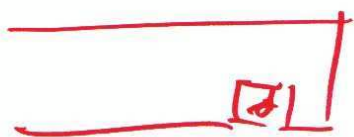
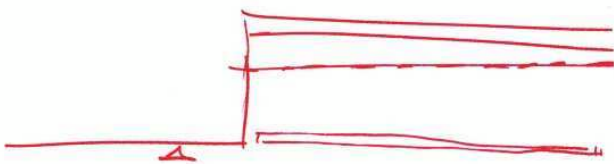


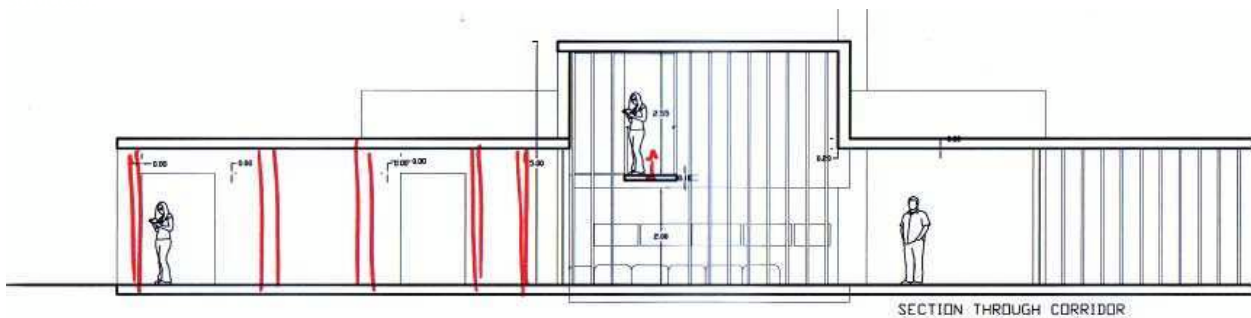
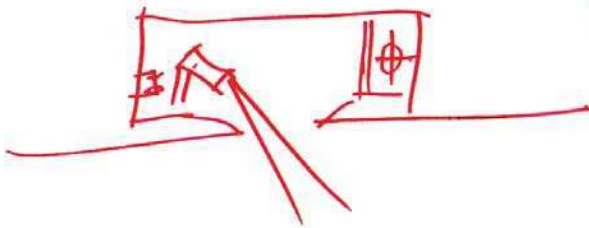
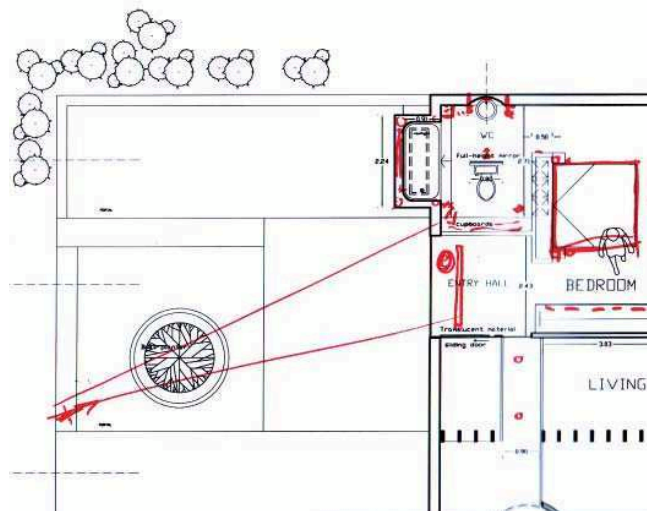
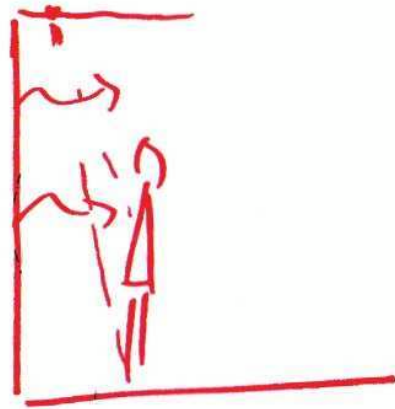
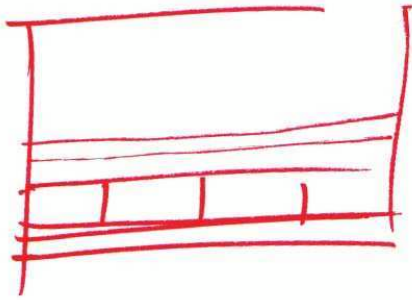


WORKSPACE
CURVED WALL







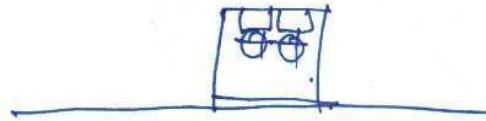


SECTION THROUGH CORRIDOR

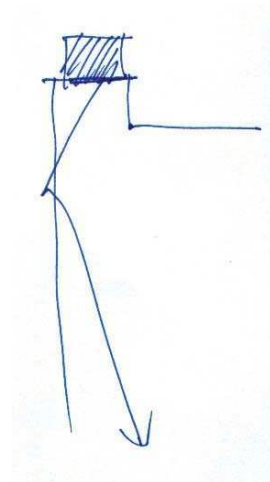
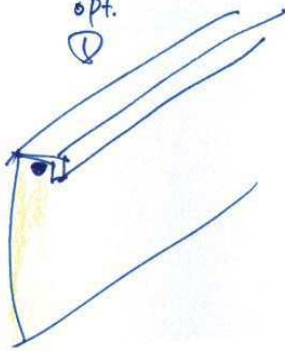
* cover by lot



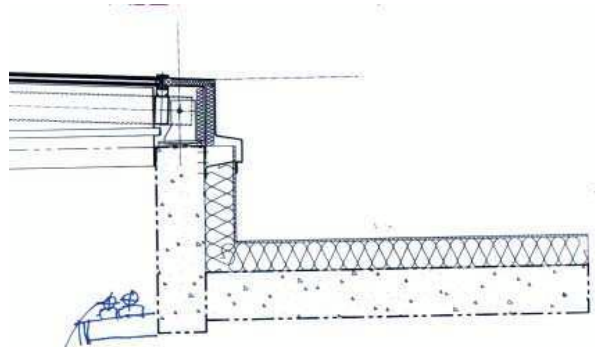
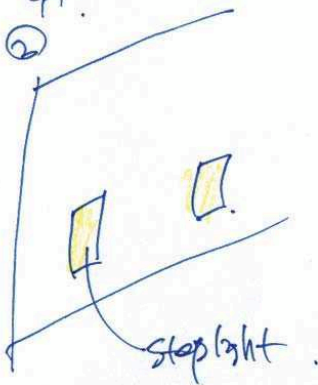
* linear slot



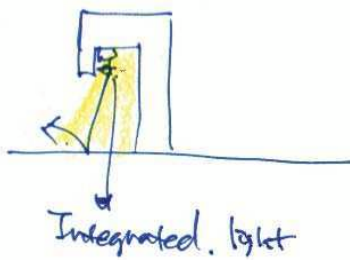
opt.
①



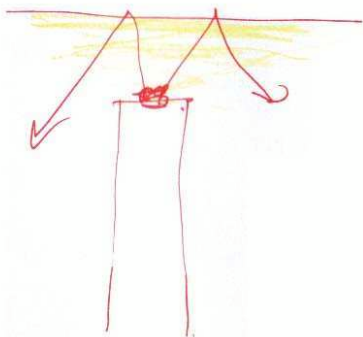
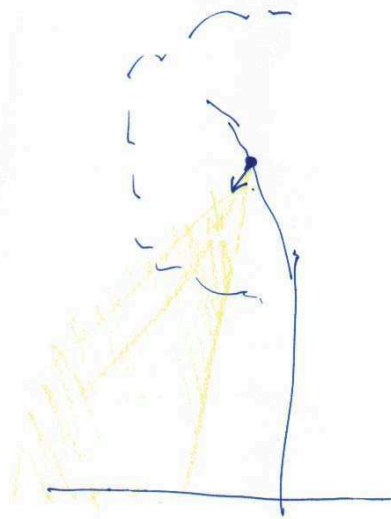
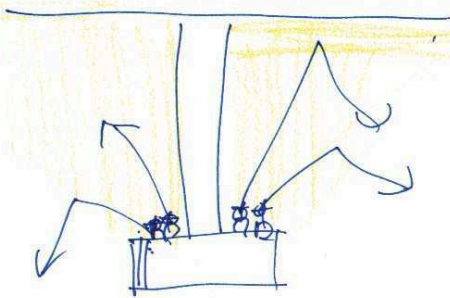
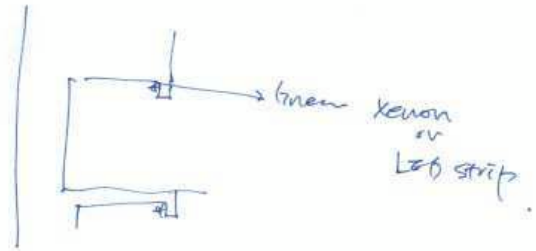
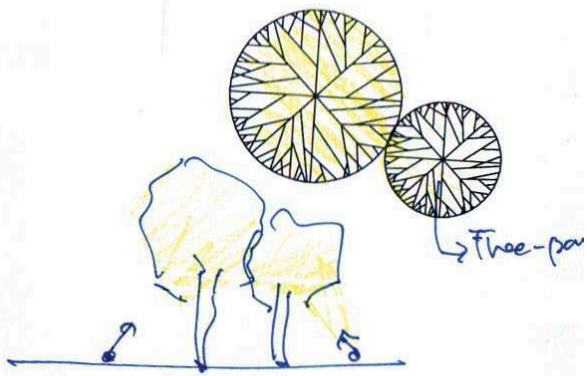
opt.
②

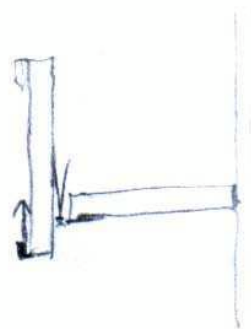
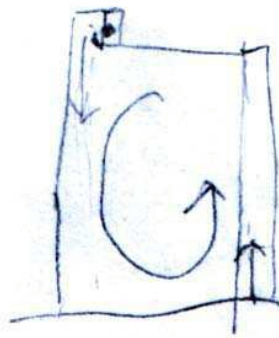
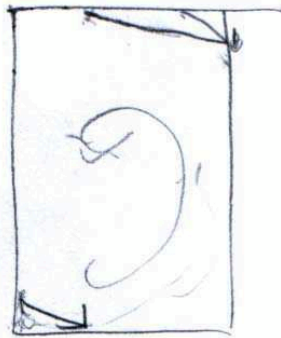
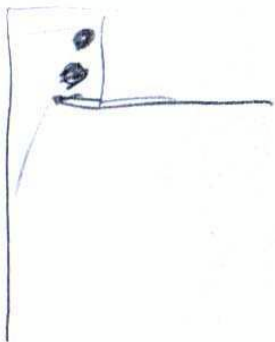
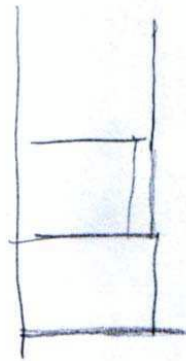


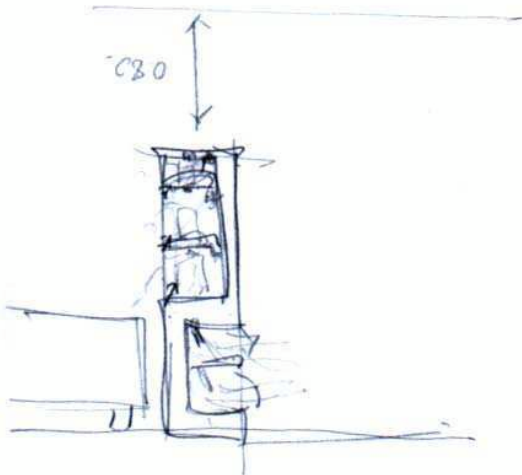
offer lighting of glazing window
(cold cathod or LED?)
could be color change...

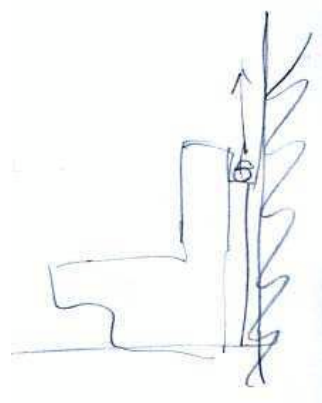
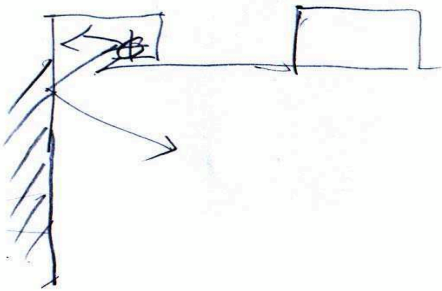
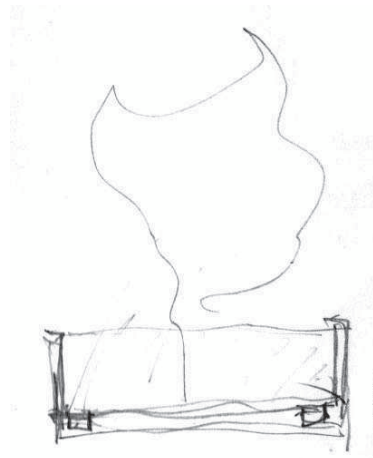
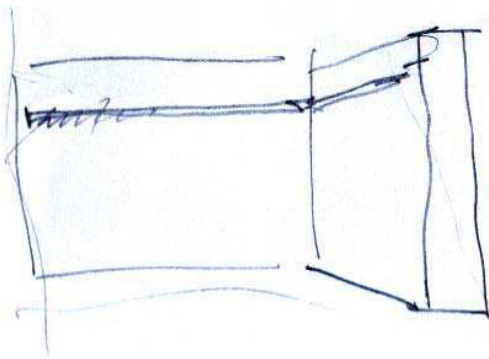
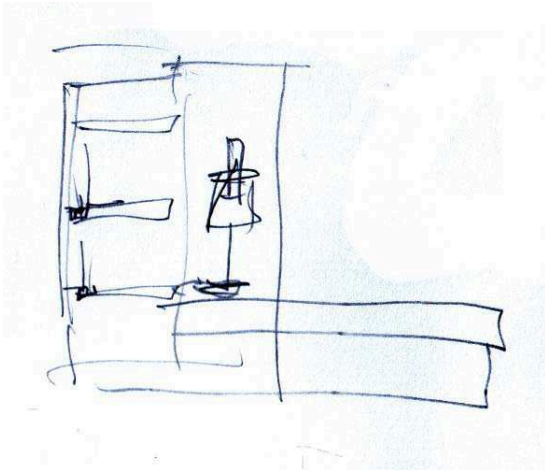
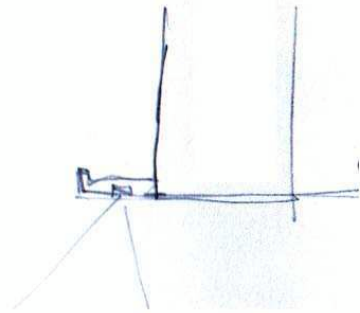
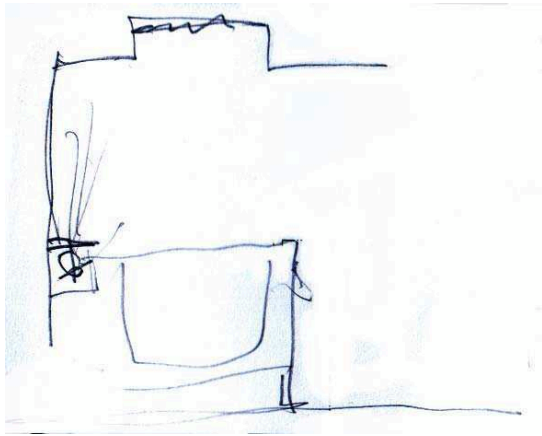


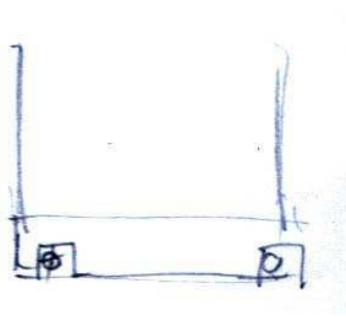
Integrated light

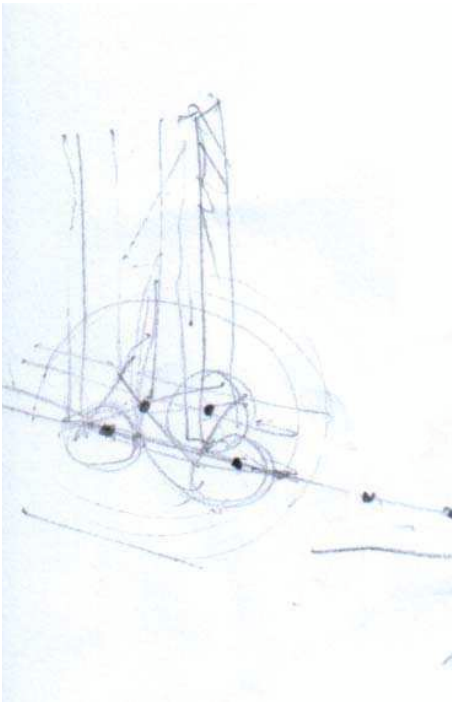
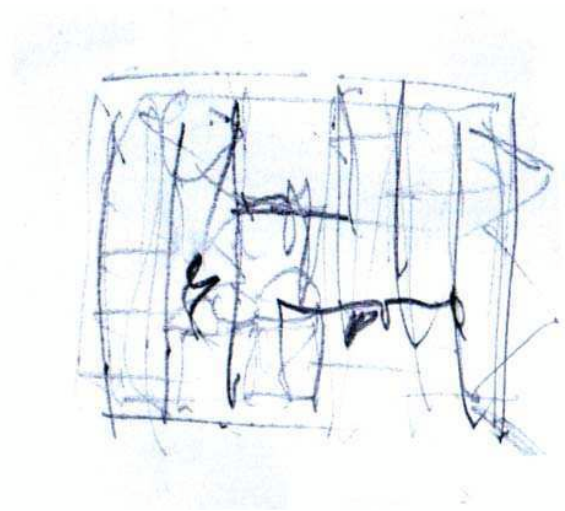
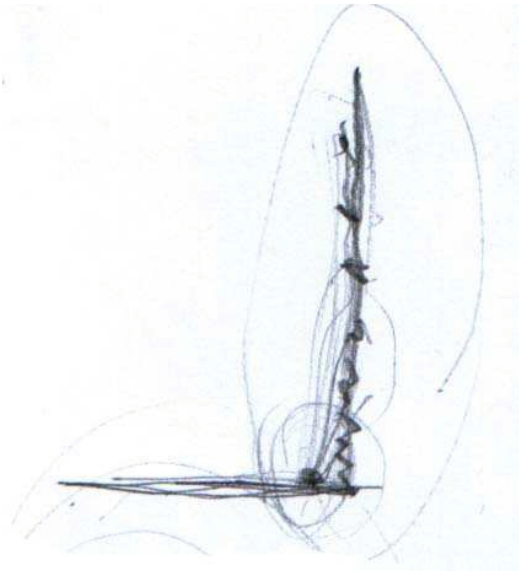


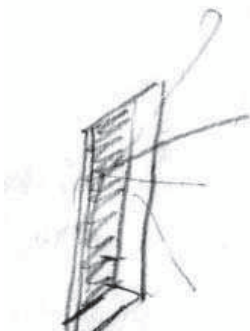
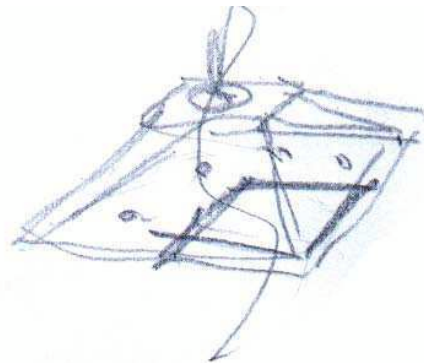
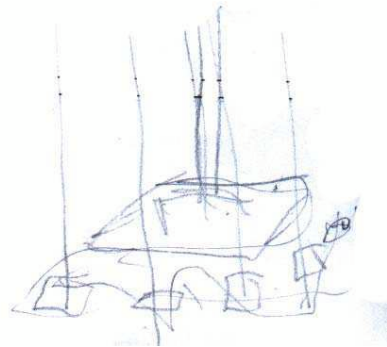
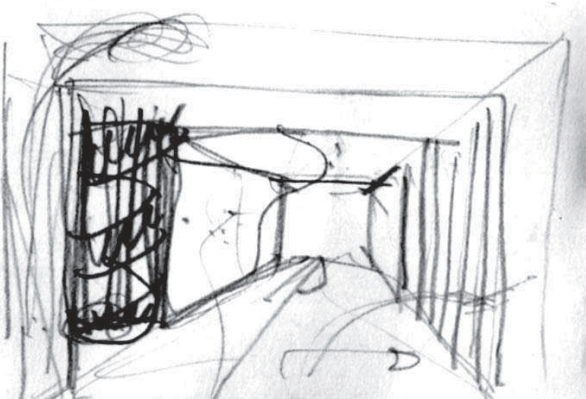
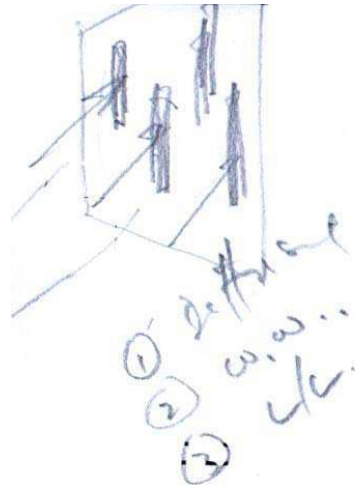
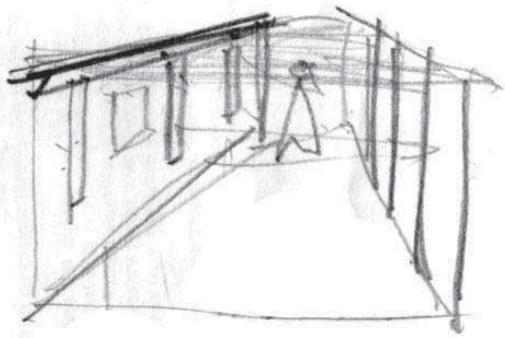


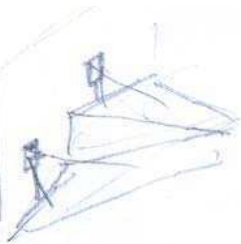
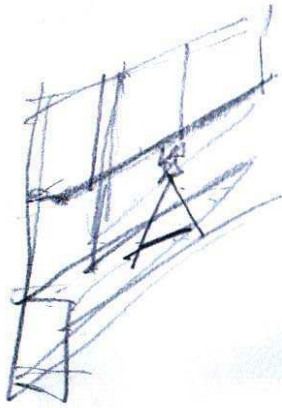
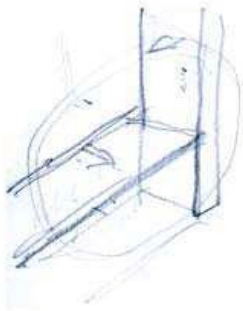
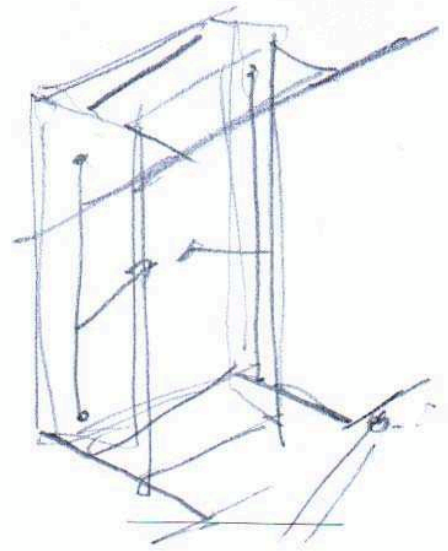
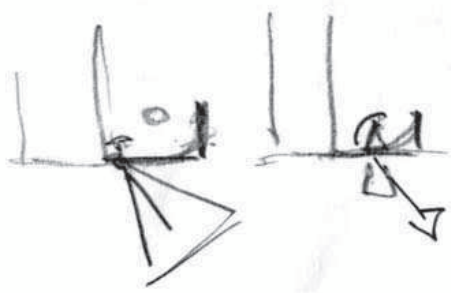


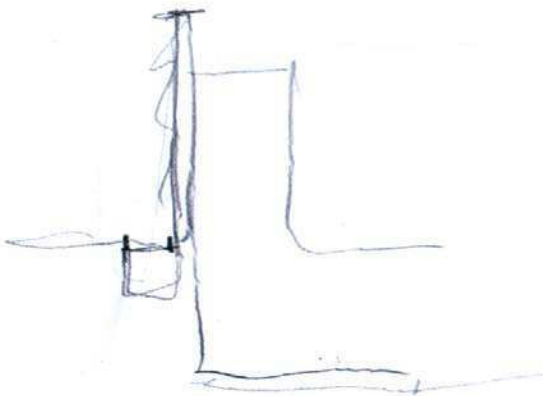
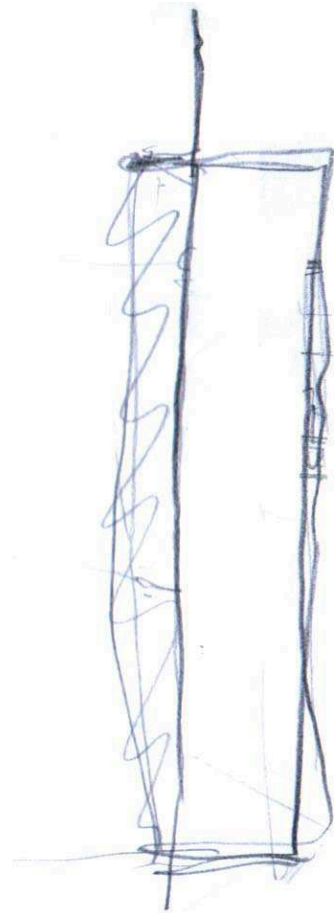
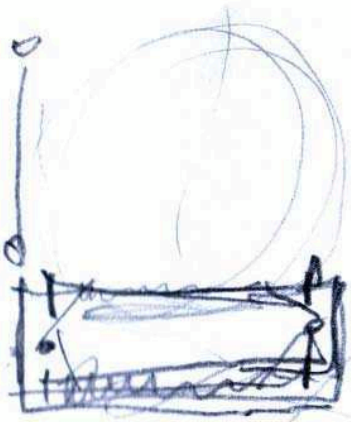
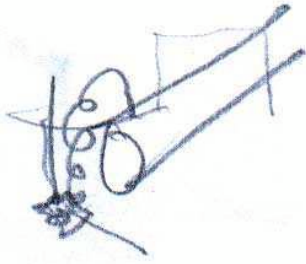


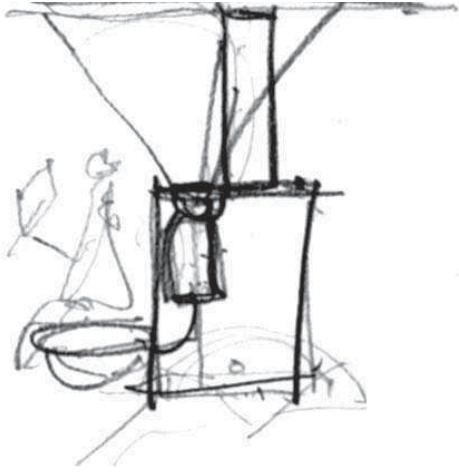


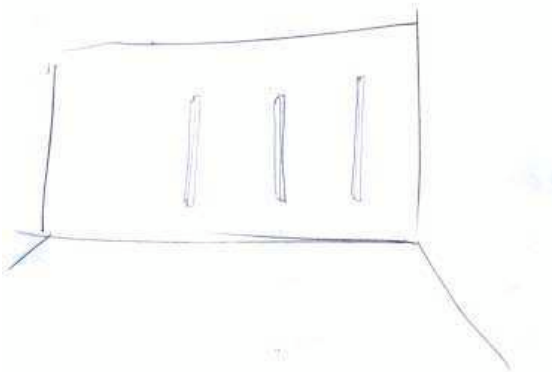
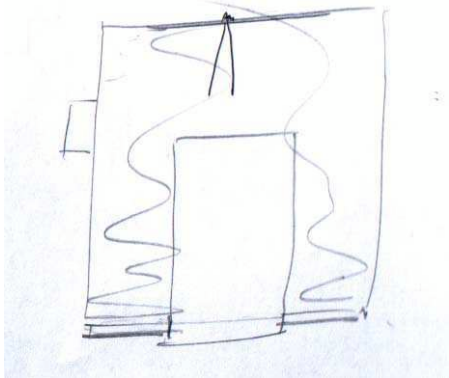
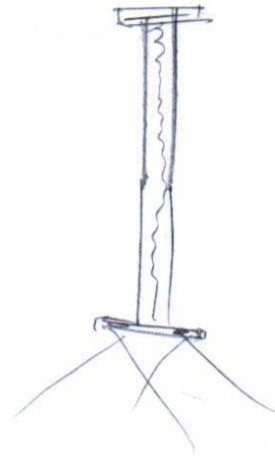
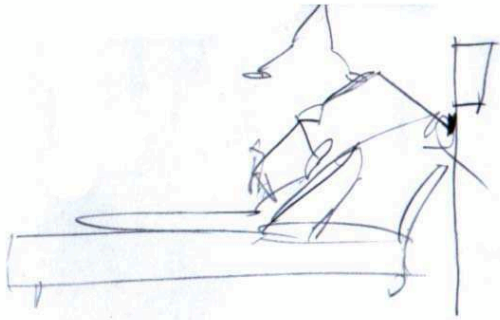
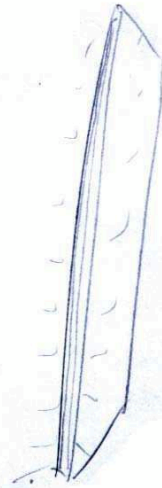
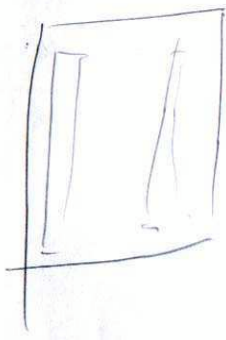


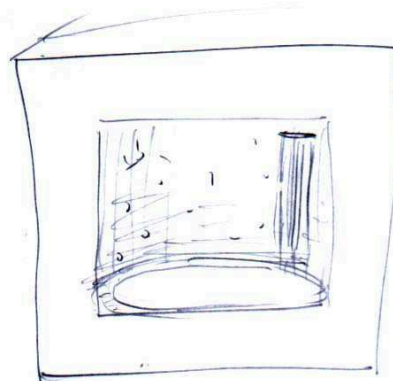
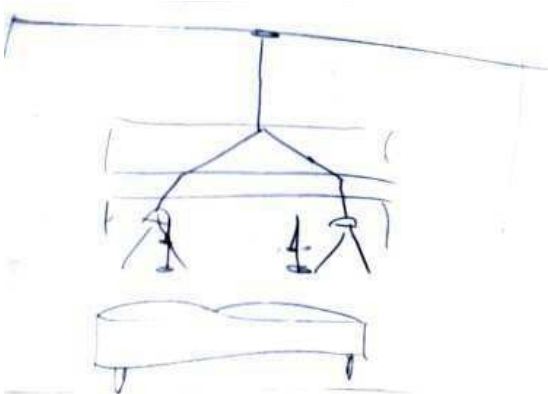
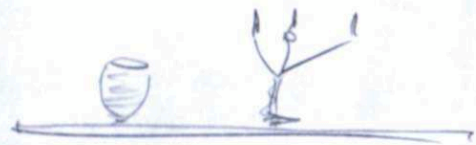
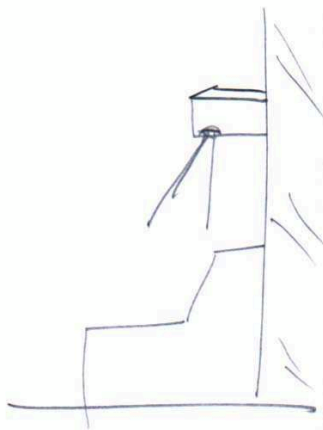
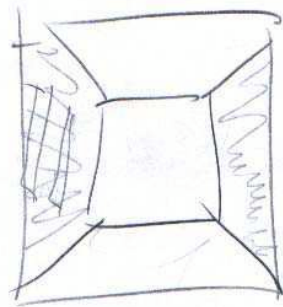


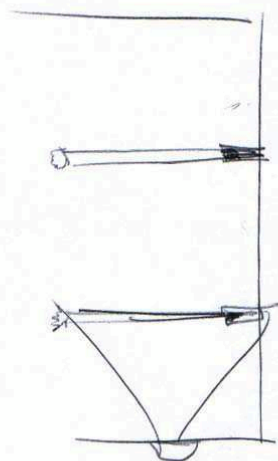


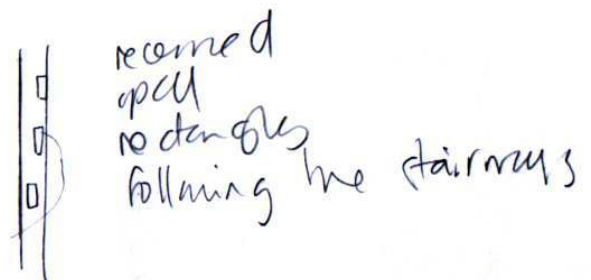
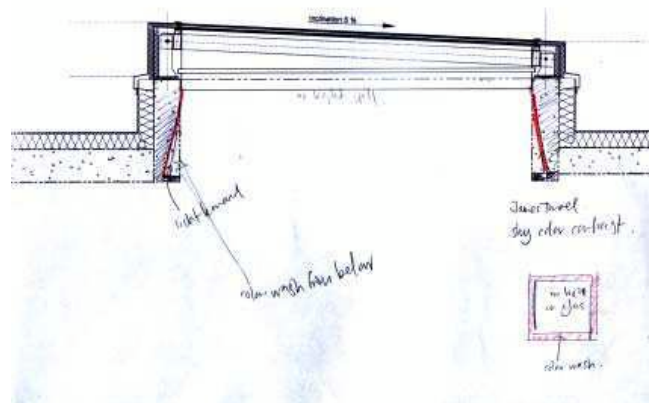
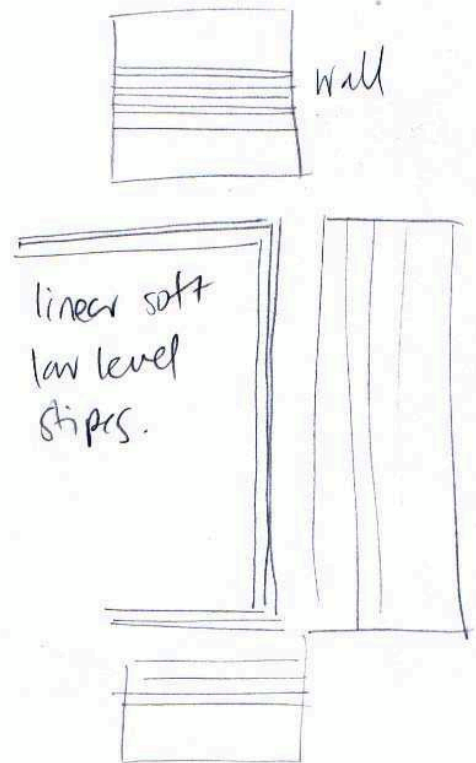
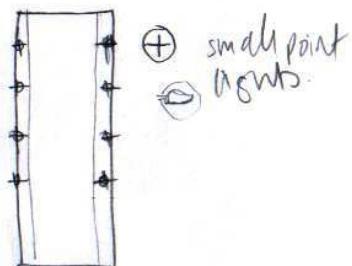
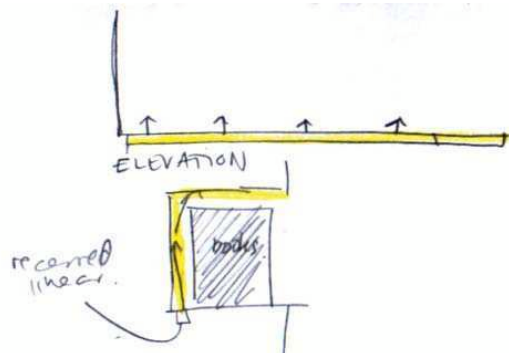
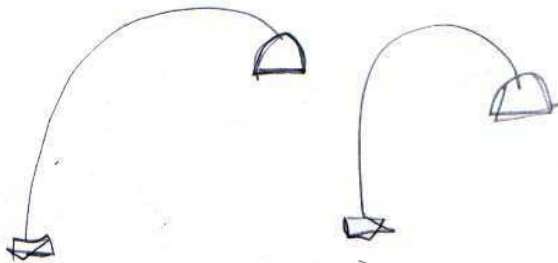






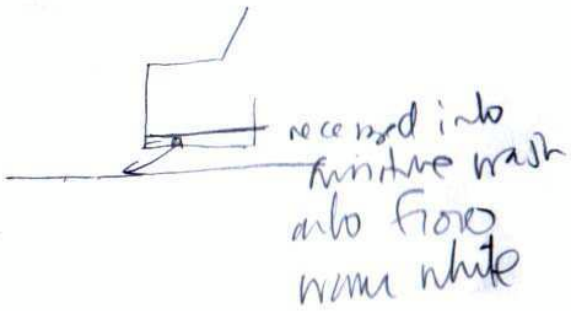








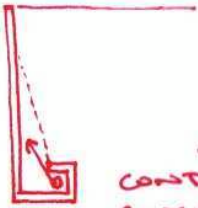
switch
 transparent - grey with glass showing through
 to solid
 solid - opal glowing pale green



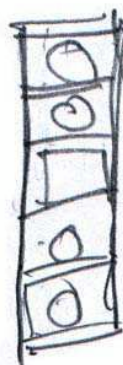
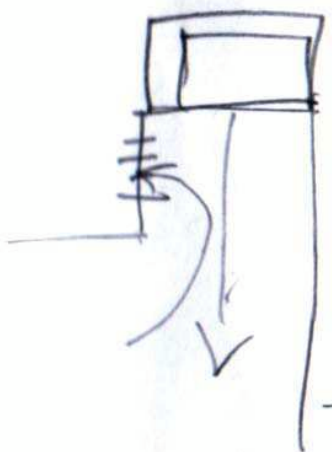
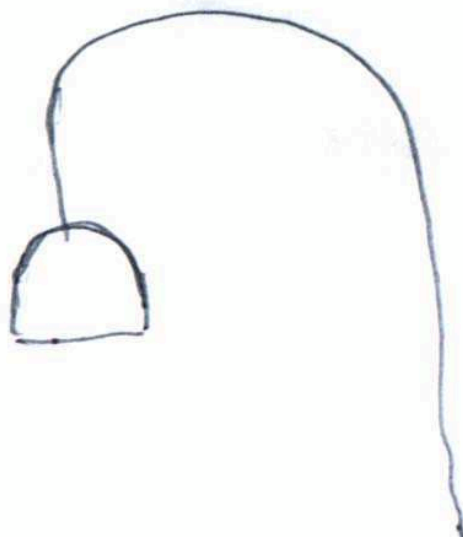
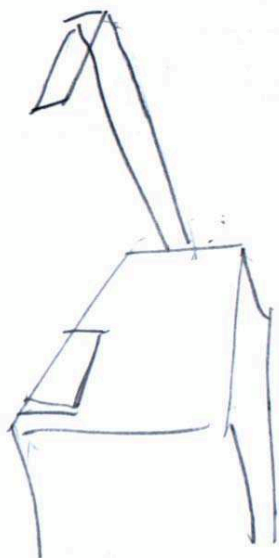
warm white
 section

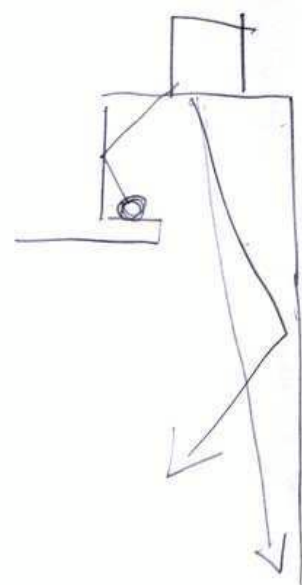
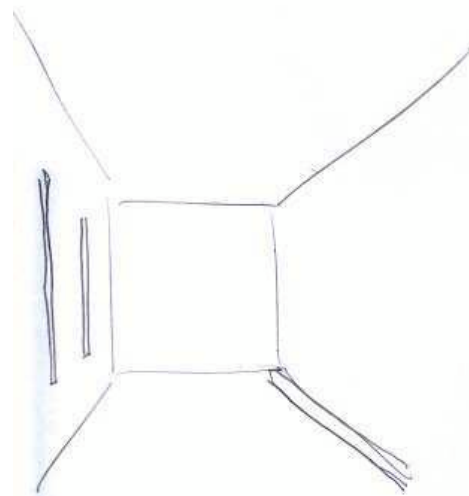
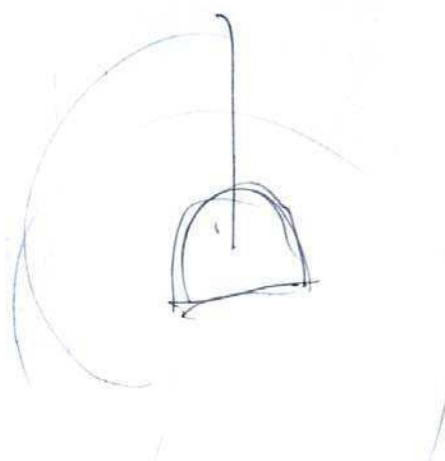
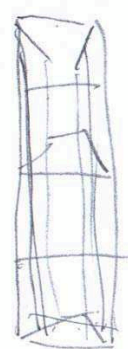
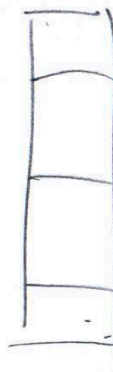
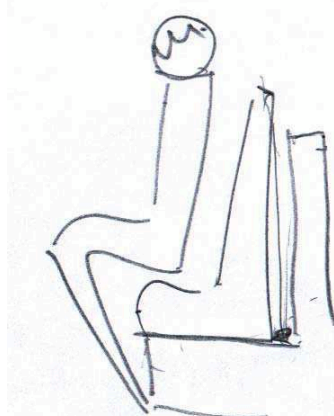
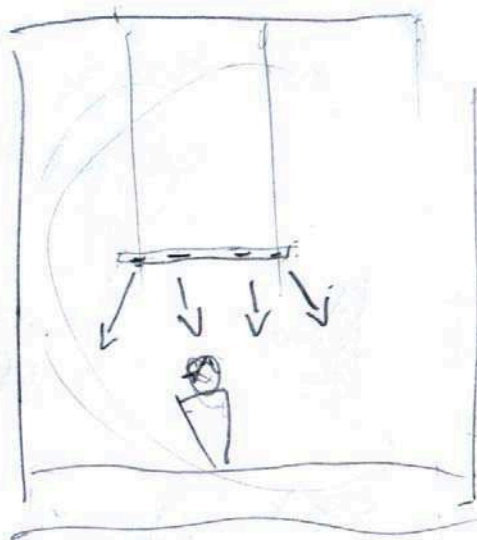


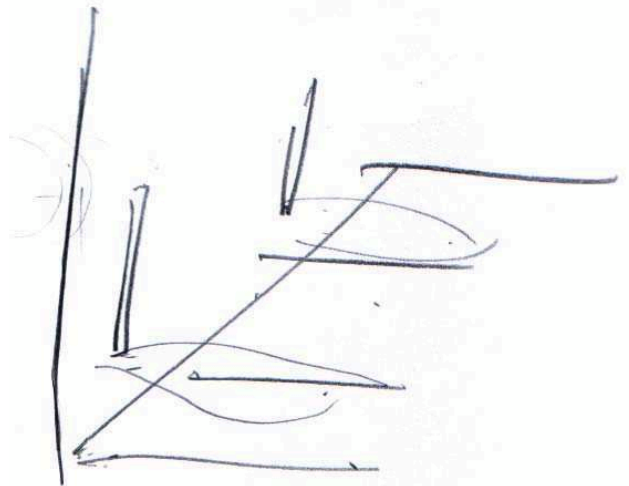
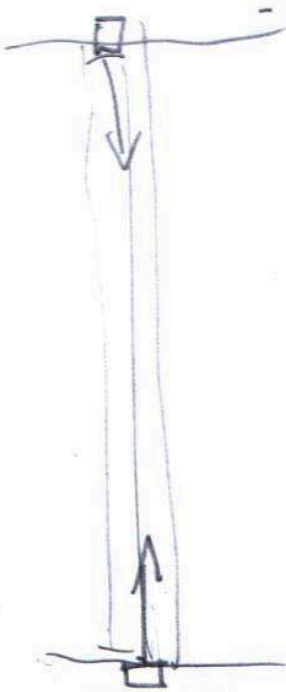
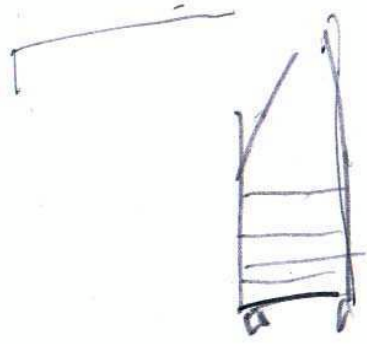
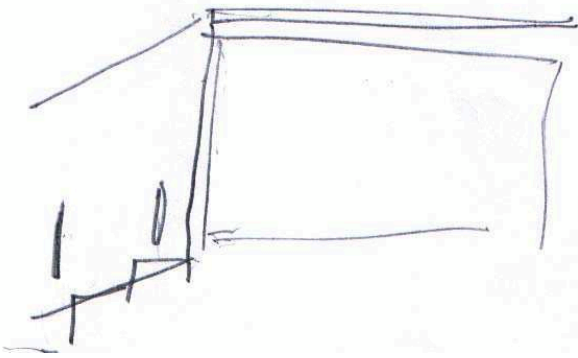
CEILING CONDUIT

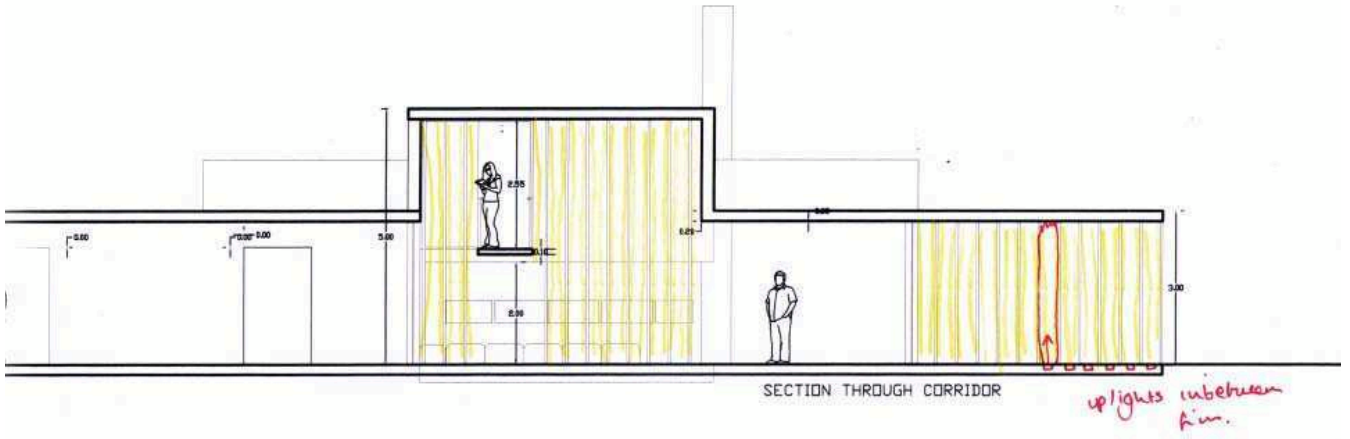


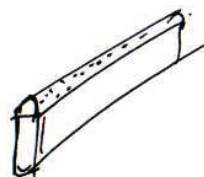
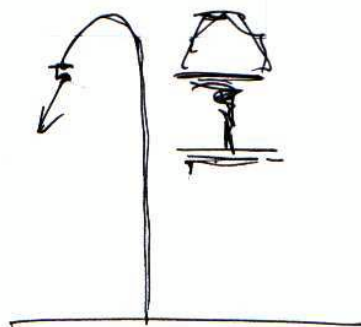
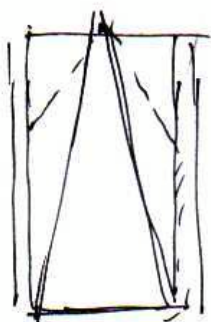
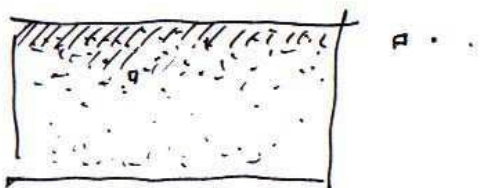
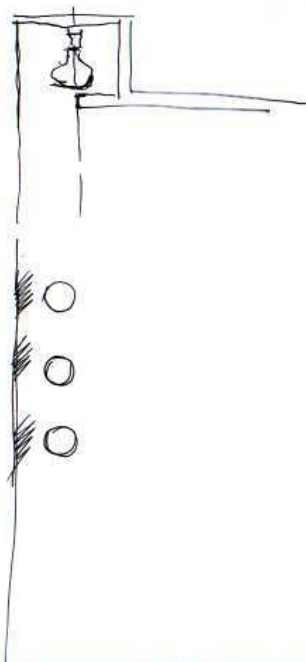
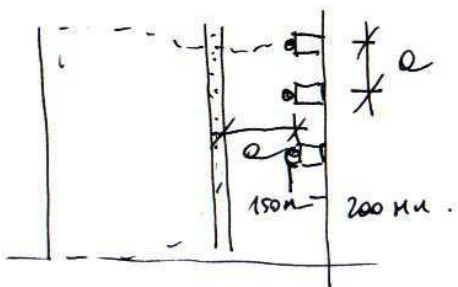
CONTINUOUS
CONCEALED
CONDUIT











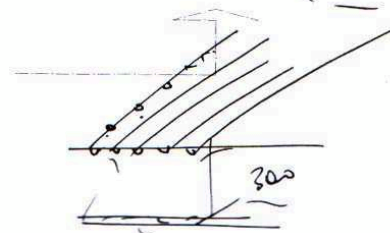
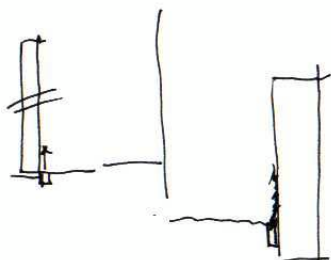
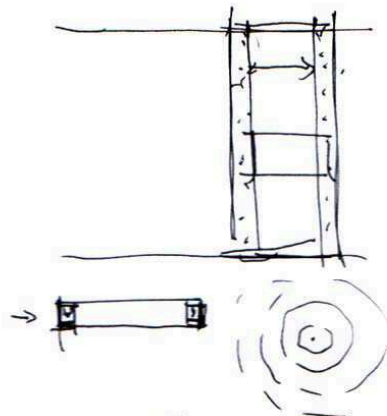
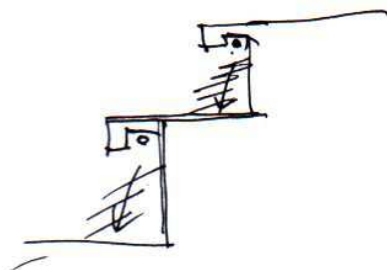
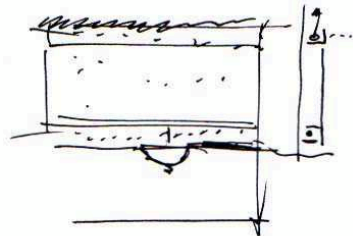
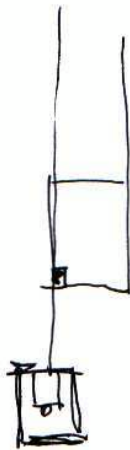
PANNELS → UP LIGHTING IN BETWEEN

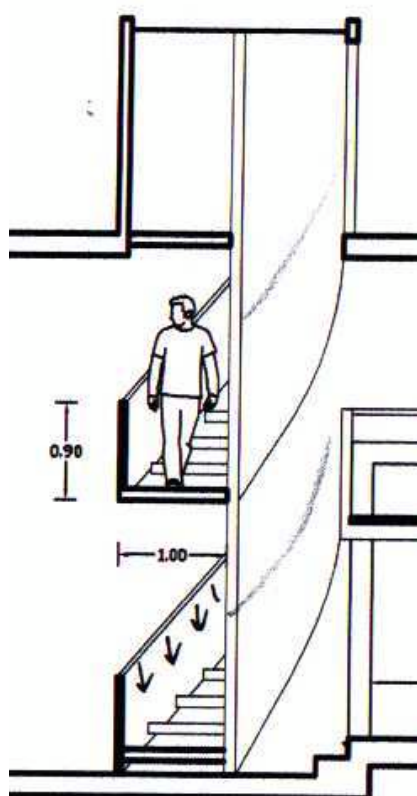
PASSAGE ? DOWN LIGHTING ?
SURFACE MOUNTED ! / EDCO
WASH LIGHT.

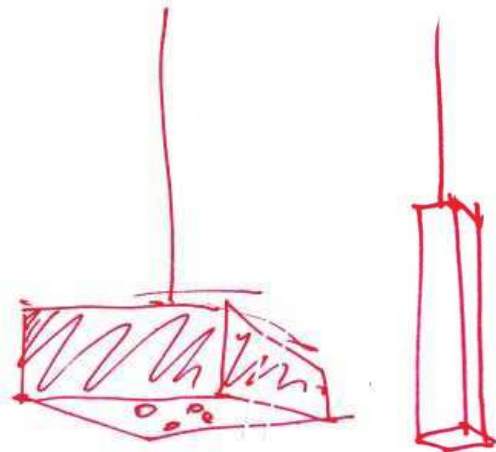
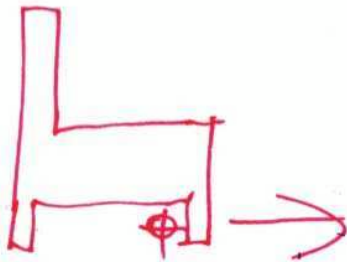
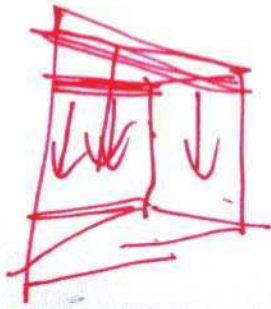
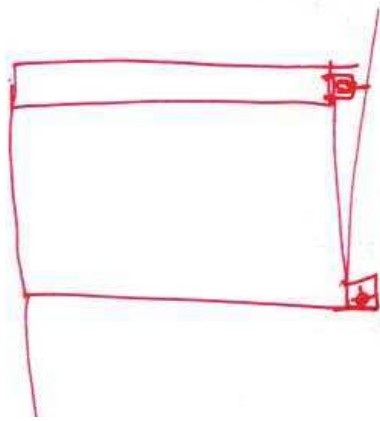
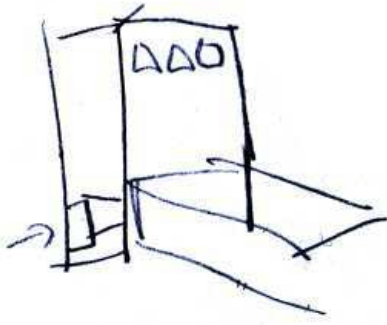
MOONLIGHT FF.
TREE → FLOODLIGHTING FROM THE TOP.
→ GLOWING EDGE.

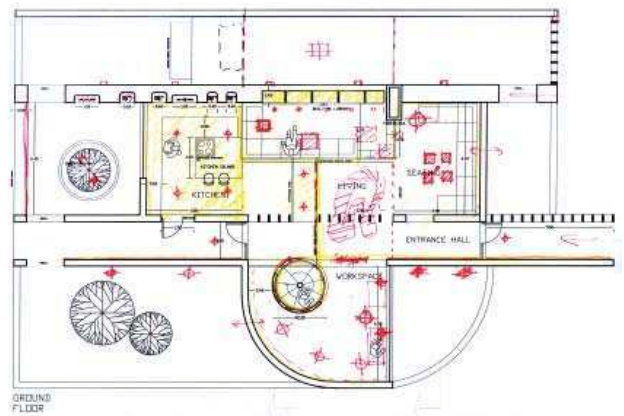
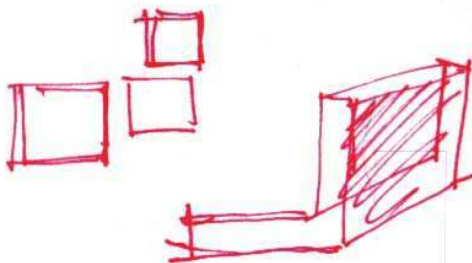
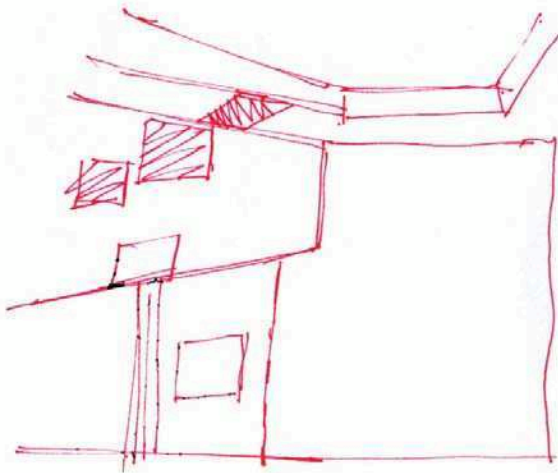
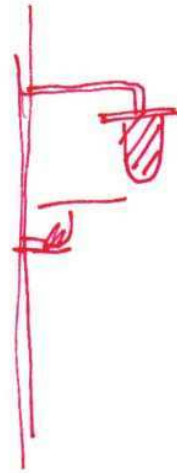
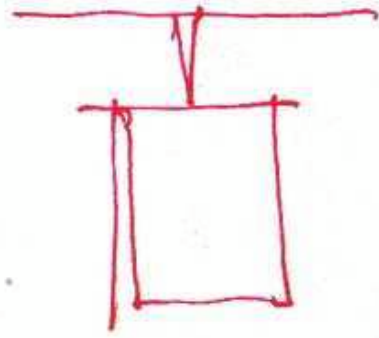
BALLUSTRADE
GLOWING EDGE.

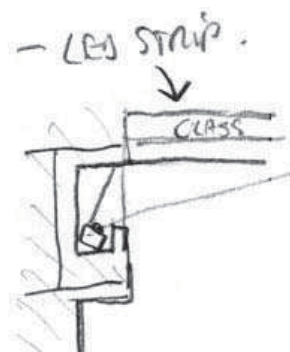
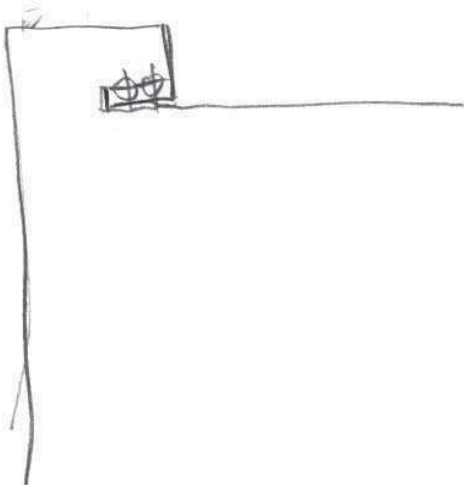
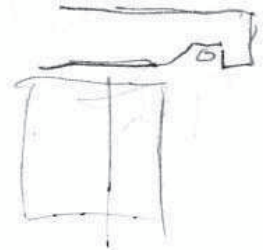
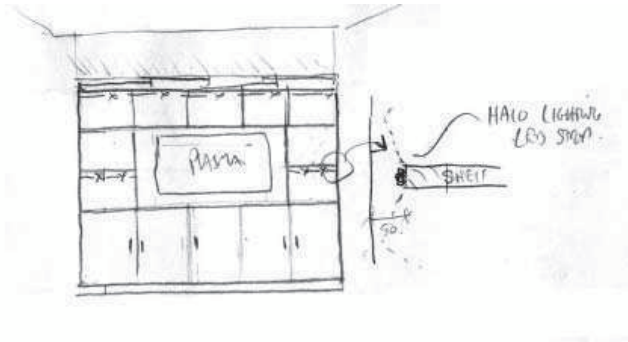
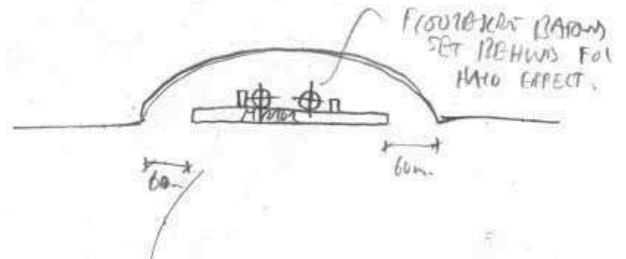
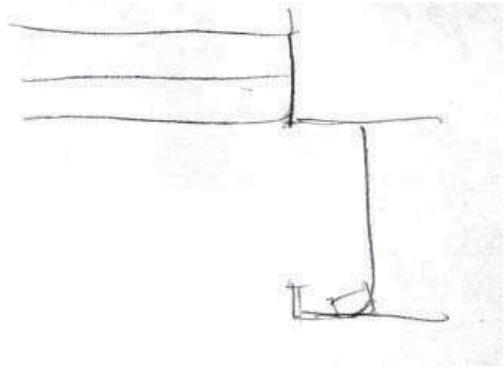
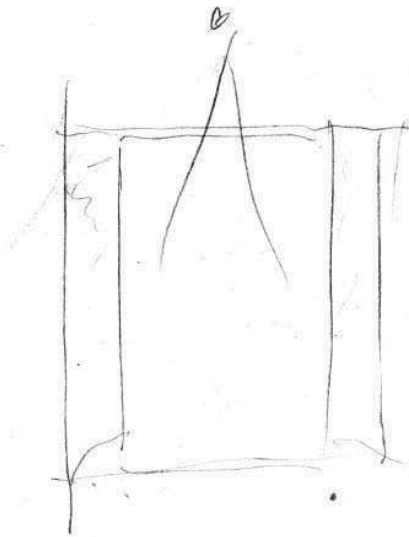
GLASS BALLUSTRADE → GLOWING
INSTA ?
EDGE LIGHTING

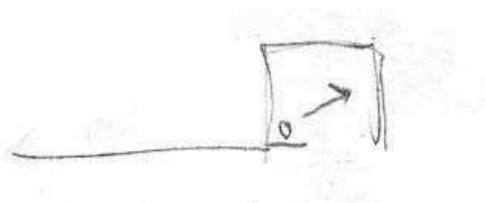
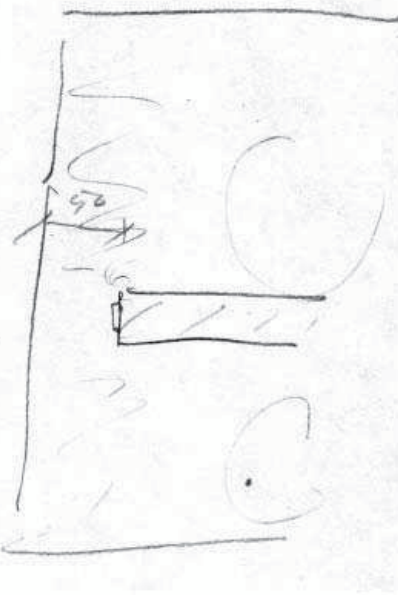
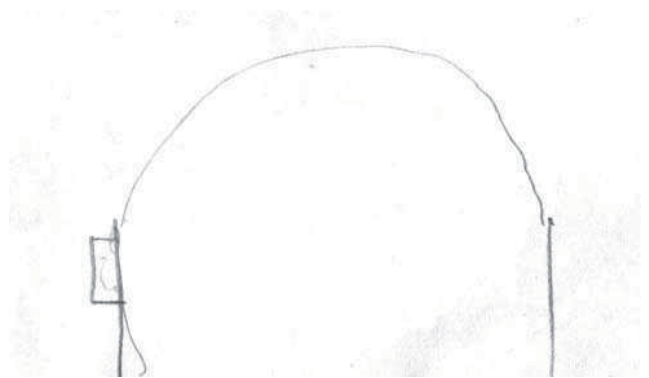
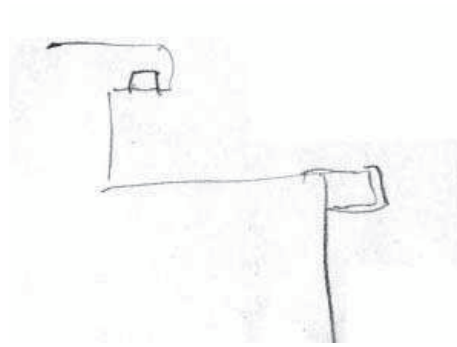
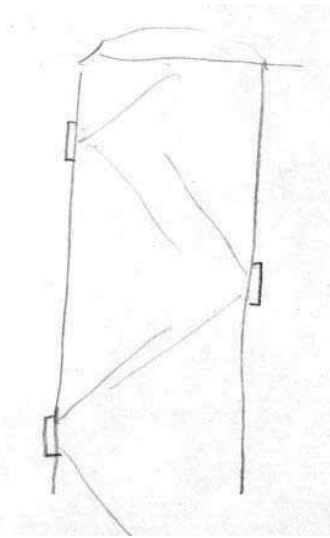










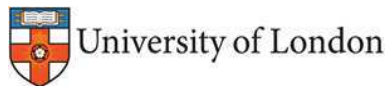


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For Research Grant towards Research Trip
To Yale Library Richard Kelly Archives



Professional Lighting Designers Association

For Best Speaker Award
1st Vox Juventa Event